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VOLUME 4 NUMBER 4 AUTUMN 1954

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★ ★ EDITORIAL

THE ORGAN INSTITUTE EUROPEAN ORGAN tour now seems to be feasible and likely to take place. It will be in July, and will include at least twenty-one days in Holland, Germany, Denmark, and possibly Switzerland. We will fly the Atlantic and travel in Europe by chartered buses. The purpose of the tour will be to study, at first hand, the organs and the organ music of the countries visited. We will also attend music festivals, and there will be time for sight-seeing. The over-all cost will not exceed $900. All arrangements will be made by the Organ Institute, including the privilege of playing and examining the construction of certain outstanding examples of organ building in each country. The tour will be of the highest value to American organ builders, as well as organists. General music lovers, who are interested in spending more time at festivals and in sight-seeing, can also be accommodated in the group. All who are interested please write to the Director as soon as possible.

The regular Summer Session will be unaffected by this tour, and will be conducted in the first three weeks of August.

CECIL CLUTTON CANDIDLY APPRAISES contemporary English organ building and playing in this issue. Informed by a wide knowledge of organs on the continent of Europe as well as in England, his influence is providing strong support for progressive developments in a country that has been slow to see the need for organ reform. Of special interest to readers of the *Quarterly*, however, will be his explanation of the background and *raison d'être* of the typically English style of organ playing.

MR. BIGGS BRINGS US AN INTERESTING report of his recent European tour. In commenting upon some of the excellent

BRIEFS ★ ★ ★

organs there, he suggests the abandonment of the term "classic" as applied to the modern organ. We have already discarded "baroque" as obviously unsuited to the modern organ. In all matters pertaining to the organ we should, as Mr. Biggs says, defer to musical considerations, first, last, and all the time. We want to realize the ideas of great composers in suitable tonal substance, and such appropriate sounds were not to be found in organs which were built during the decadent period. The "modern" organ has been and is being developed not only so that we can give more adequate performances of the "classic" work of Bach, Buxtehude, Pachelbel, and their contemporaries and forerunners, but for the benefiit of more recent music, as well. Perhaps some organs that are being built today may come to be regarded as "classic" examples of twentieth-century organ building, which in its best form incorporates much that is old and much that is new. Henceforth, anyone who in these pages attempts to call a "modern" organ a "baroque" or "classic" organ will be banished to interpeduncular spaces!

ISA MCILWRAITH'S JOURNEY THROUGH West Germany continues to the Beethoven house in Bonn, and includes an inspection of the console of the organ upon which Beethoven played. Those of us who were privileged to hear her lecture and see her colored slides at the 1954 Summer Session, will find this second part of her article especially interesting.

IT IS ESPECIALLY GRATIFYING TO BE ABLE to publish reports from other countries. Too often organs and organ music suffer from provincialism of time and place. It is a quite general failing in our profession to limit ourselves to the ideas of one teacher,

(Continued on Page 51)

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E. Power Biggs, outside the Martin Luther Memorial Church in Berlin, where he gave a concert in memory of Fritz Heitmann.

E. POWER BIGGS

IMPRESSIONS OF EUROPE, 1954

JOHN SEBASTIAN BACH himself drove us from The Hague to Amsterdam, along the canals, through tulip fields in their full splendor. We were on our way to the Oude Kerk of Amsterdam, the oldest building of the city and practically the national monument of Holland. This is the church where Jan Pieter Sweelinck was organist for many years. His name is honored by a tablet within the church, and outside, in the public gardens his memory is not only kept green but held in vivid color by "Sweelinck" tulips. In naming a species of the national flower for him, Holland gives evidence of its pride in this great Dutch musician and the legacy of his music.

And I'm not joking about John Sebastian Bach, for that was the exact name of our friend from the Information Service of the American Embassy in the Hague. We were in Holland during the course of a three month concert trip, which included recitals and broadcasts in some forty cities of most of the European countries. To play music was the first consideration, and particularly to offer wherever possible compositions by some of our modern American composers — Sowerby, Piston, Riegger, Donovan, Donato, etc., works not as yet familiar to European audiences. This American music was well received, but there were some amusing incidents; as, for example, when the newspaper in Trondheim announced that I had played "Jazz in the Domkirk!" Readers who recall the Sowerby Organ Symphony will know that it doesn't qualify in the least as jazz, yet its 5/4 rhythms fell with that effect on one European critic's ears!

An accompanying aspect of our trip was to find new modern European music, and some unfamiliar older music of Europe, that could later be programmed over here on CBS, and this search met with considerable success.

Conveniently, too, the compact and yet leisurely schedule of the trip provided an opportunity to examine in close succession the organs of Portugal, England, Holland, Denmark, Norway, Sweden, northern and southern Germany, France, and even, on the swing back, Iceland. Perhaps it would be more accurate to say that the visit afforded a chance to study the great music of Europe in its original setting, that is — as performed on the great organs of Europe, both old and new. For it is only in the actual performance of music that an instrument comes to life.

We retraced, though not on foot, Bach's famous trip to Lübeck to hear Buxtehude. We visited Lüneberg, where the present organ must have been familiar to the young Johann Sebastian when he was there in his teens as a pupil at St. Michael's Convent. We were in Hamburg — the city of Bach's meeting with Reinken — and played a number of the Arp Schnitger organs there and in the nearby towns of Steinkirchen and Neuenfelde. Schnitger's own little village of Neuenfelde, where he lived and worked, honors this great builder with a street named for him and displays his coat of arms in the church.

We flew down the corridor to Berlin, for a broadcast and a concert in memory of Fritz Heitmann. This recital on an excellent new Walcker organ brought many visitors from the Russian sector of the city. We then continued to southern Germany, where the wonderful organs by Gabler, at Weingarten; by Stumm, at Amorbach; and some modern Steinmeyer instruments in Heidelberg and elsewhere afford interesting comparisons to

those in northern Germany, and show what infinite variety there is for the organ builder within the classic tradition.

In Scandinavia, historic instruments such as the famous Compenius organ of 1610 (older than the USA!) still in its original state in the Castle of Frederiksborg and perfectly playable, form striking parallels with the best modern instruments by Marcussen and Frobenius, and illustrate how deeply the roots of the organ builder's art reach down the centuries.

Two towns with associations of fact and fiction were particularly enjoyable. The far-north city of Trondheim in Norway, with its magnificent Gothic Cathedral, was the actual spring board of the Norsemen on the long ago visit to America. And the city of Odense in Denmark, the birthplace of Hans Christian Andersen and of all the creatures of his imagination, has a handsome Cathedral where the pure white interior is in stunning contrast to the gilded altar piece and the dark wood of the pulpit and organ case. Herman Schlicker tells me that he worked on this very organ when as a youngster he was studying organ building in Denmark.

After Sweden, with visits to historic instruments by Cahman and to modern organs by Marcussen, we went on for concerts in Paris and then London. In London, progressive thought in organ design has literally erupted in the new organ in the Royal Festival Hall. This instrument is the work of Harrison and Harrison, under the coaxing, prodding, and quite probably mortal threats, of Ralph Downes. All concerned are to be congratulated heartily.

Travelling everywhere on this trip by air, we could within a matter of a few hours contrast the sonorities of different instruments. Since it would hardly be possible within the confines of a short article to attempt to catalogue my observations as a player on the varied characteristics of so many different instruments, it might be better to chat briefly and in general terms only, about the organs that we saw in just one compact little country — Holland.

In offering these comments, I feel a bit like the lazy rooster in a story in the Old Farmer's Almanack. Students of that venerable publication will recall that a certain farmer claimed to have the laziest rooster in creation. He said that this particular rooster was such a loafer that he never bothered to crow, he just waited until some other bird did and then nodded his head. At the risk of emulating this rooster I'll add an emphatic "hear-hear" to previous articles in the Organ Institute Quarterly by M. A. Vente, Robert Noehren and others.

It's alleged that seeing is believing, but in this case hearing is believing. What fabulous organ sounds one may hear in the churches of Holland! In a handy bundle, here are a great number of outstanding instruments, depicting in clear and contrasted colors the inexhaustible richness and variety of the so-called "classic" approach to organ design. Yet we should not persist in using this word "classic," for this tradition is being brilliantly carried on and developed in our day by several artist builders, such as D. A. Flentrop. The word "classic" is restrictive and we ought to drop it, for this approach to organ building is timeless, and — in any century — it's really just the normal and musical approach to the matter.

On paper, how slight some of the compositions of Sweelinck look — just a succession of scales and arpeggios — and yet played in its natural habitat how grandiose is the sound of the music. It springs to life in an incredible way when played on the organs for which it was intended.

What are the distinguishing characteristics of these wonderful examples of organ building? Admittedly, an intelligent specification is the first essential. Low wind pressure and correct wind chest design are basic, though I don't believe tracker action in itself is the clue to the matter. Obviously the placement of the organ must be right in the open, whether the larger or smaller pipes are set to the front. Favorable acoustics are a help, yet certain installations in non-reverberant buildings show that distinguished voicing will make its mark under any circumstances, while indifferent voicing becomes unbearable. There never seemed to be a need for the standard excuse that the "Celotex salesman got there first."

One cannot help reflecting that all the basic elements mentioned are present in many of the newer organs of our own country, and yet we often feel that organs recently constructed here do not equal in actual sonority the implied glories of the specification.

Why are we frequently disappointed? The success of the organs in Holland cannot be laid only to the variety of Holland cheeses that the Dutch builder probably had for his breakfast, though these certainly do form a firm foundation for any endeavor. It's perhaps after a good deal of trial and error that one comes to realize the implications of that one word "voicing" and one becomes aware of the truth of the statement that it is impossible successfully to carry out a classic specification with the customary romantic techniques of voicing pipes.

Close on the heels of this follows the conclusion that here, too, is the reason why a classic caboose tacked on to an essentially romantic organ doesn't work. Probably the classic division will not be correctly voiced; and if it is, the two halves will mix about as well as oil and water. It's better to have a romantic organ, in which one can placidly wallow, or a classic organ of consistent voicing right through.

And in this process of voicing, given the correct cut of the pipe, the absence of nicking must surely be set down as the chief factor of difference. It would be hard to improve the clear description by the English authority, Cecil Clutton, of the musical advantages of unnicked pipes, and the following is quoted from *The Organ* for January, 1951. In an article about the Steinkirchen organ by Schnitger, Mr. Clutton offers comments applicable to all instruments. "The attack," he writes, "is accompanied by what may, for convenience, be described as a lipping effect. It is immediately accepted as a natural concomitant of the musical note . . . . At the same time, by subtly emphazising the moment of attack, the note is started on its career with proper emphasis, which is the best possible means of obtaining polyphonic clarity. Taken in its broad effect, the lack of nicking imparts to the whole instrument *vivacity* . . . ."

"Vivacity," and "vitality," which Mr. Clutton uses later, are excellent words! Certain it is that unnicked pipes afford definition, articulation and distinction to the whole gamut of the instrument, from a single stop to the total ensemble. The catch, obviously, is that this sort of voicing must be done by the hands of an artist-builder trained in this tradition. And evidently it's just so much easier to put in the nicking!

How handy it would be to concoct an "Everybody's Do It Yourself De-Nicking Kit, $1.98" — an Aladdin's lamp to summon a classic genie who would fill up those devitalizing little nicks in a jiffy!

The older manner of cutting and voicing pipes, with no nicking — or practically none — is both the distinguishing factor and the common denominator among all these notable instruments from the past several centuries, as well as the equally fine instruments being built today. I have every confidence that the reader on hearing these organs

of Holland, as well as many other equally fine organs through the length and breadth of Europe, will — like the rooster — sagely nod his head. Fortunately, there are already several builders in America who embody the tradition and the technique. The work of these individuals is becoming better known to the players of the United States, who see in such voicing the possibility of realizing in tone their own ability in musical performance. Far from the so-called "classic" revival having run its course here one may feel sure that it is only just beginning.

As for the term "Classic"—which I notice has popped up in just about every other paragraph in spite of my good resolutions — we might appropriate an idea from Emerson's Essays. Of Greek thought and culture Emerson wrote "we admire the old, not because it is old, but because it is natural." Does not the idea of natural voicing express this classic ideal? There's that word again!

Among the many Dutch organs that we visited, played and heard, were those in St. Bavo's at Haarlem, St. Jans, Gouda, the modern "Sweelinck" organ in Hilversum, the outstanding Flentrop instrument in Amstelveen, the reconstructed organ in the Wester Kerk of Amsterdam, and of course the instruments in the Oude Kerk and in the Grote Kerk in The Hague. Everywhere we went we met with the most gracious hospitality and generosity on the part of the Dutch organists, builders and church authorities. We rounded out our trip with a visit to Leiden, to the Pieters Kerk where the Pilgrims worshipped during their stay in Holland before embarking on their hazardous voyage.

With the memory of these organs in one's ears, it appears inevitable that further ideas and ideals will set sail from Holland, perhaps even an exchange of instruments will take place, to the advantage and progress of both the Old and the New Worlds.

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ARTHUR HOWES

VIBRATO

THE vibrato is a fundamental characteristic of the human voice, which in its most desirable form is always present in good singing, but which is, nevertheless, much abused and little understood. Singers with excessive vibrato are by no means rare in church choirs, where Christian charity and political considerations sometimes permit them to remain for a long time. The vibrato can be too fast, too slow, too wide (traversing intervals as wide as a major third,) produce too much change in loudness, resulting in disagreeable pulsation, or it can sag down below the pitch, with excruciating effect. Any of these single faults, (or what is more often heard, combinations of several of them), not only obscure the music, making it difficult if not impossible to hear the notes, but they cut through the smooth lines of the other singers' blended tones, and thereby destroy the effectiveness of much other good singing. A voice with a faulty vibrato is extremely unpleasant and almost unendurable to the sensitive ear. It suggests physiological and spiritual degeneration. It makes us think of that objectionable line in a hymn "See how we grovel here below," which is, oddly enough, sung to the little ditty in ¾ time known as "St. Agnes." Perhaps this line should appropriately be sung with those heaving, wobbly, flabby noises, that can only be described as an ugly caricature of singing. One such voice induces uneasiness and nervous tension in any musical person within earshot, and several simultaneously in full cry can make a choir sound like the bird house at the zoo.

Common courtesy compels us to ignore the uncontrolled trembling and jerking of persons afflicted with cerebral palsy or St. Vitus dance, but there is no divine or human law which requires us to suffer the loud bleating of human jelly-fish. Any choir master who fails to remove such singers from his choir is, in our opinion, guilty of gross dereliction in his duty to God and man.

It is of no avail to suggest to any singer that he speed up, slow down, or otherwise control an offensive vibrato, as he cannot correct this fault by the direct application, to it alone, of any amount of effort. It is only subject to involuntary control and will improve only as a result of adopting correct procedures in other matters.

Some successful choral directors have solved the problem by deliberately cultivating a so-called "straight" tone without any vibrato. With this way of singing voices can blend well, and the words and music can be delivered clearly. It is therefore infinitely preferable to singing with excessive vibrato. Excellent as the choirs may be when they sing with this "straight" tone, however, they could sound even better if the voices possessed that full richness of tone that comes from correct, natural, singing with full body coordination. In such singing there is always a vibrato that is pleasing because it is almost unnoticeable, and clarity is enhanced by the presence of greater harmonic development. Actual measurements reveal that a mild, scarcely noticeable vibrato passes through approximately 6.8 complete phases per second, traverses a narrow band of pitch above the note, and pulsates very gently.

A good vibrato might be described as a *function* of good singing, because it develops automatically in a tone that is correctly produced. Conversely, an unpleasant vibrato is

a symptom of a sick and ailing voice, and it can only be improved by doctoring the fundamental processes involved in singing. The singer should review his posture, breathing and body coordination, together with all the essential skills involved in singing. The guidance and direction of a well-informed and skillful voice teacher are very desirable in such cases. However, all choir masters and choral conductors should acquire a sufficient knowledge of the fundamentals of singing to enable them to diagnose such difficulties and give intelligent guidance in overcoming them. It is imperative that all directors should have a good understanding of the art of singing and an ear that is sensitive to all the subtle variations of tone production of which the human voice is capable. A course of study with a good voice teacher is an essential part of every choir master's professional training. This is the best way to acquire a clear concept of what good singing is, and how it is done.

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* * * A MATTER OF RECORDS * * *

THOMAS P. FROST

IN the last issue we promised to take up treble and bass compensation. A general acquaintance with the subject is valuable, for it will assist anyone to obtain more pleasing sound from a phonograph. This is an inherently simple matter which became complicated by accident. We will try to un-complicate it for purposes of explanation. It merely means equalizing the amplifier to suit the peculiarities of various records.

To begin with, as everyone must have noticed, records tend to have a slight background hiss. This hiss is a very high treble sound, generated by the needle rubbing over the record surface. It would be more noticeable, if some clever engineer had not found out how to eliminate most of it. He increased the strength of the sound in the treble when he made a record, and modified his amplifier to reduce the treble by exactly the same amount. The sound was still in normal balance, but the hiss was mostly gone, because the high treble, containing the hiss, was amplified less. This principle is applied to all records made today. The treble "recording characteristic" defines the treble - boost, and the amplifier adjustment is called "compensation," "equalization," or "roll-off."

In the bass end of the spectrum there is the same sort of situation. For good technical reasons it is desirable to record the bass at reduced strength. (Otherwise it would require inordinately large grooves.) When this is done, the phonograph must have "bass compensation," analogous to the treble compensation, to reinforce the bass by just the amount it was reduced.

The point where the bass leaves off and the treble begins is called the "cross-over"; above this frequency the treble recording characteristic applies, and below it the bass. Unfortunately, there has never been general agreement as to what "cross-over" frequency to use. The record manufacturers have gone their several ways. Some have chosen 300 cycles per second, some 800 cycles, and most are in between at 400 or 500. (This is a range roughly from E below middle C to A above the treble staff!) To complicate matters further, there has been disagreement as to how sharply to boost the treble.

Various standards were established for recording characteristics. One was known as the AES standard (Audio Engineering Society), and another the NARTB (National Association of Radio and Television Broadcasters). They are incompatible, i.e., a record made to one sounds strange on a phonograph compensated for the other. Some record manufacturers followed one, and some the other, and not a few used characteristics of their own devising. In the future most new records will be made in accordance with a newly-announced RIAA standard (Record Industry Association of America). This will lessen the confusion, but we will still have to reckon with all the records made to date.

In this muddled situation, some sort of variable equalization has to be provided in every good phonograph; and for any reasonable approximation to high fidelity this must be carefully reset virtually from one record to the next. In its simplest form, the adjustment may be by separate bass and treble controls. These can do much to make the various records sound acceptable. However, they cannot completely equalize the records because they do not permit any change in cross-over frequency. To do this, a cross-over control, or adjustable compensator, must be built into the phonograph; or it may be added in a separate, inexpensive, little box which can be connected to the amplifier.

A practical method of learning to use the tone controls may be helpful. Not that we have any disrespect for musicians' ears, but *entre nous* it may be admitted that they are not so amazing as the general public might believe, when applied to this problem. The same conductor who can balance a chorus and orchestra with facility may be at a loss when first confronted with the knobs of a high-fidelity phonograph. According to his prejudices and temperament he is likely to get either too much bass or too little.

Two steps are recommended for learning the best use of the tone controls. First, make a deliberate back-and-forth comparison between the phonograph and live music, listening to hear the ways in which they differ, and experimenting to test the effect of the various settings. This comparison will have to be repeated many times over, because of the phenomenally poor "memory" of the ear. Second, keep a list of the settings which prove satisfactory for specific records or brands of records. The writer can personally testify to the difficulty of learning to set the controls well, and also to the assistance gained from keeping a little list of settings.

The amplifier, provided that it meets certain requirements, need never limit the sound quality of a phonograph. First, it must have more than enough undistorted power. Ten watts may be taken as a reasonable minimum, and twenty or more preferable. (Many old amplifiers are only good for a few watts.) In home listening, the full power is needed, not continuously, but for a reserve to prevent loss of definition or momentary overloading in fortissimo passages. Second, the amplifier must respond uniformly to all audible frequencies. A power output constant within one decibel from 20 to 20,000 cycles per second is adequate. (The decibel is a unit used to indicate loudness. A change of one decibel is approximately the smallest increase or decrease in volume which the ear can distinguish.)

Finally, all distortion, hum, and thermal noise due to the amplifier should be virtually inaudible. The characteristic ugly quality of a table model radio played too loud is the result of distortion. Distortion in a much smaller degree than this is still inadmissible. It can be detected by a tendency to indistinct, harsh "white" sound in loud passages, and if perceptible is a serious defect. Hum may be considered acceptable if it is faint enough not to attract attention when the volume knob is at its highest useful position. Thermal noise is heard as a sort of "frying," most evident when the volume and treble controls are both at maximum. It is actually caused by jumping electrons in the amplifier circuits. It cannot be entirely eliminated, but is a defect if prominent. With the controls still wide open, a moderate tap on the amplifier case may cause a ringing sound in the speaker. If so, one of the tubes is probably microphonic and should be replaced.

There are many excellent amplifiers on the market. Some, particularly the high-power types, have no controls and depend on the volume and tone controls in a connected pre-amplifier or radio tuner. The latest trend is toward very compact, self-contained amplifiers; three or more are newly available, priced under $100. Other good amplifiers range in price from less than half to more than twice this amount. A leading research organization, Consumer's Union, recently tested amplifiers, and their findings can be consulted for more detailed information. Those interested will find much additional information in the technical literature, and will find radio stores usually cooperative with explanations and demonstrations.

In the near future, we will discuss loudspeakers and enclosures, with especial reference to those suitable for reproducing true organ bass.

LYNNWOOD FARNAM, Organ Recital: J. S. Bach, Choral and Variations on "O Gott, Du frommer Gott"; G. F. Handel, "Menuet" from Organ Concerto in B flat major, Opus 7 No. 3; G. F. Handel, "Concerto for Organ in F major," Opus 4 No. 5; Siegfried Karg-Elert, "The Mirrored Moon"; Leo Sowerby, "Carillon in A Flat"; Louis Vierne, "Carillon de Westminster." Reproduced from organ rolls made in 1930 by Lynnwood Farnam; registration and swell pedal changes by Clarence Watters. CLASSIC EDITIONS CE 1050 12″ LP: $5.95

Shades of Lynnwood Farnam! In this unique recording we have truly a voice from the past. The most illustrious American organist of his era, Farnam made only one known "recording": a player roll which he cut on the Austin studio organ. He made this in 1930, the year of his untimely death. The present phonograph record is a rendition of this roll on a modern organ.

The appearance of a recording by Farnam is of the greatest significance. No mere stunt, it has genuine musical and historic value. Those who knew Farnam's playing will be carried back a quarter-century to the hours of his maturest performance. All who know his fabled musicianship only by report can now hear him for themselves — a rare privilege and a rewarding experience.

The story of how this recording came to be is told in the excellent jacket notes. A player action was connected by Messrs. Austin to their modern instrument in St. John's Episcopal Church, West Hartford, Connecticut. On this the Farnam roll was run off, and the resulting music recorded by normal microphone techniques. The Austin player action, as this recording evidences, is highly satisfactory; the original performance appears to have been recreated with a high degree of faithfulness. No other method possible in 1930 could have given such a musically satisfying record of Farnam's performance.

The registration and swell-pedal movements were adapted for the St. John's instrument from Farnam's original by Clarence Watters, organist of St. John's and head of the music department of Trinity College, Hartford. Considering the difficulties involved in adapting registration from a romantic studio instrument to a modern church organ, Watters has been very successful. His registrations evidence judicious selection and are in keeping with the music. It cannot, however, be assumed that Farnam would have handled this instrument in precisely the same way.

The organ is the most satisfying Austin instrument the writer has yet heard, a new three-manual of thirty-nine ranks. Its complete stop-list is given on the record jacket. The Great affords a full Diapason chorus from 16′ through mixtures, together with a group of useful smaller voices (a convenience usually found in this builder's work.) The Swell is the most complete division, with an English reed chorus of breadth and some fire. The Choir boasts excellent flute mutations.

The recording shows many virtues of the organ: colorful individual voices, potent swells, and vigorous ensembles. A slight tendency to a forced or hard sound, noticeable in the building, is fortunately not apparent in the record; perhaps it is too subtle to record.

The recording is of good high-fidelity, free of audible distortion. The rather distant microphone location yields a considerable spaciousness of acoustics at some expense in clarity of detail. The bass is recorded lightly and a little boost of the bass control is required to restore a just balance, but it is all there. There is a slight waver occasionally apparent in the recorded sound, comparable to a very light tremolo; this will detract from the music for some listeners, although it can only be sensed in a few sustained notes.

Farnam played this music at a time when the classic revival in this country was

still struggling to be born. The Cleveland Museum Rückpositiv was still two years in the future, and the Germanic Museum instrument seven. In this perspective it is the more striking that he chose a program which calls for no apology today. Half of it is devoted to works of the unsurpassed baroque masters, and half to representative works of contemporary composers, German, American, and French.

The early variations on "O Gott, Du frommer Gott" receive a taut, brilliantly convincing performance. The chorale is first stated without repeat on a full combination of foundations and mixtures. The first variation finds 8′ Harmonic Flute and 4′ Quintatön in the florid lower part, while the upper alternates between Clarinet and mutations. In this and the other variations, Farnam occasionally employs a moderate, graceful ritard at the end of a phrase, but is rigorous in returning to the main tempo with the next phrase. A more inflexible rhythm would be acceptable today, but emphatically not in 1930. The tempo throughout inclines to be rapid, with the exception of the expressive eighth variation, where chromatic harmonies reflect the reference of the hymn to death. Most memorable is the breath-taking final variation. Its brilliant flourishes echo between two large mixture combinations, with animation sustained to the three detached notes which authoritatively introduce the final cadence.

The little minuet of Handel gives restful occasion for the alternation of light solo effects on mutations, Clarinet, and Oboe. They are silhouetted against a subtly fluid choral background on the Harmonic Flute.

The conjunction of gracious performance, colorful registration, and delightful music makes the Handel Concerto altogether the most ingratiating music of the recital. The perfectly poised performances of the allegro movements fill the air with a rush of sounds such as the virtuoso Handel himself might have envied. Light registration of the sort used here, with few stops, and pitches above unison frequently represented, reproduces especially well on most phonographs. In one passage, the ubiquitous Harmonic Flute tries to carry the upper voice alone against a lower voice with prominent 2′ tone; the effect is more interesting than successful. This aside, the registration is particularly satisfactory. This splendid concerto alone would justify the entire record.

In the lovely, impressionistic Karg-Elert and coloristic Sowerby we do not see Farnam to quite such good advantage, although the music is good of its kind and well-done. His phenomenal technique is of less avail here, and the precise selection and shading of tone-colors, over which Farnam had no control, is of correspondingly greater importance.

These works do show how pleasantly the organ will provide richly kaleidoscopic coloring when such is required; and Farnam's phrasing, tempi, and general interpretation are preserved. Mr. Watters, who eschewed tremolos, celestes, and swells in the Bach and Handel, gives us them all here. We noticed that the final chord of the "Mirrored Moon" cuts off abruptly. It seems to have been clipped in recording.

The program concludes with the brilliant "Carillon de Westminster," which was but three years old when recorded, and destined to become one of the best-known of Vierne's works. Farnam gives it a stunning, rock-solid performance which makes nothing of technical difficulties while making the most of the music.

Applause and appreciation to Austin for making this record possible, to Classic Editions for a good recording, to Watters for interpreting the registration; and most of all to Lynnwood Farnam, a memory and a legend for a quarter-century, miraculously real again.

J. S. BACH, Variations on "O Gott du frommer Gott!"; Chorale Fughettas, "Christum wir sollen loben schon," "Gelobet sei'st du Jesu Christ," "Gotes Sohn ist kommen," "Herr Christ, der ein'ge Gottes Sohn," "Lob sei dem allmächtigen Gott," "Nun komm', der Heiden Heiland"; Canonic Variations on "Vom Himmel hoch de komm' ich her"; Chorale Preludes, "Herr Jesu Christ, dich zu uns wend," "Herzlich tut mich verlangen," "Wir sind hier," "Wer nur den lieben Gott lässt walten," (two settings). FINN VIDERO, organ. HAYDN SOCIETY HSL-94 12" LP. $5.95.

In his informative article on the modern Danish organ in the Summer *Quarterly*, J. R. Knott urged the value of hearing these organs by means of modern recordings. When such a record appears it is occasion for enthusiasm, especially when the music is that of the "immortal Bach" and the performer so eminent a musicologist and organist as Finn Videro.

The recording was made on the Marcussen instruments at Soro and Kaeterminde, Denmark. The Soro instrument is a three-manual of 48 ranks; its stoplist is very similar to the Skenninge organ whose disposition is given in Mr. Knott's article. The crisp, bright tones of these instruments are ideally suited to the delineation of polyphony.

Videro offers the authentic, scholarly reading his admirers have come to expect of him, reserved in tempo and phrasing. The music acquires a fascinating vitality at his hands. The organ quality, the lively speech of the pipes, almost harpsichord-like at times, is undeniably a major factor. A basic aspect of Videro's art is therefore the selection of the registration. There is seldom more than one stop at any one pitch in a combination, and almost never more than two. One or more pitches above unison are usually represented. Coupling of the manuals is rare. As a result, each of the chorale movements is portrayed with great individuality.

The two major works of the program are sufficiently well-known to require little comment here. The fame of the superb canonic variations on "Vom Himmel hoch" is established beyond our power to add or detract. The variations on "O Gott, du frommer Gott" are, coincidentally, the same set which appears in the record reviewed above. Both versions have much to recommend them; but the honors for presenting the music in the most authentic manner go to Videro, whose chaste style is foreshadowed in the poise of the earlier performance, and whose instrument was constructed just for the interpretation of polyphony.

The six Weimar chorale fughettas and five chorale preludes are welcome additions to the recorded repertoire. All except the "Herr Jesu Christ, dich zu uns wend" and the well-loved "Herzlich tut mich verlangen" are brief movements for a single manual.

The Haydn Society, as is their custom, has done an excellent recording job. The microphone, placed close to the organ, has captured the sound in fine detail, including the "chiff"; yet a comfortable amount of the reverberation is admitted.

Videro has greatly enhanced the value of his recording by listing the complete registrations, a practise he invariably follows. His lucid analytical notes also call for commendation.

ORGELECTRA

The First and Only Key Action Current Designed and Engineered Specifically for Pipe Organ Use

ISA McILWRAITH

ORGANS SEEN ON A SUMMER'S TRIP IN WEST GERMANY

SECOND OF TWO PARTS

(In Lübeck)

At the Jacobikirche, only several blocks away from the Marienkirche, everything is intact, including the two fine old organs; one in the swallow's nest on the north wall, the other a large rear gallery organ. Luck was against us. The organist had left just before we arrived. No one knew where he had gone and none of the people at the church had keys to the instruments. Exasperating as the situation was there was no way of improving it, so after a good look around the beautiful church, we said good-bye.

On to the great seaport Hamburg, the largest city in Western Germany. Here heavy losses were suffered in the war. We sought out the famous Katharinenkirche, where Bach, as visitor, had played on the fine four-manual organ for the aged Reinken and many important persons of the city. The church had been completely gutted.

The Jacobikirche with its splendid four-manual Arp Schnitger organ of sixty voices, at which Bach may or may not have hoped to become organist in 1720, was severely hit, but is now under repair. The organ, removed during the war for safe-keeping, is now reinstalled. Unhappily, conditions at the time of our visit did not permit us to see the instrument.

While we were in this dike country, we drove over to Neuenfelde bei Hamburg. Stopping to reconnoiter when we assumed that we ought to be in the proper vicinity, we discovered that we had drawn up exactly opposite a building of great interest. We had never thought that it would still be on the face of the earth — the workshop of Arp Schnitger. A plaque on the front of the large, long, well-cared-for house announced the fact:

Hof des Orgelbauers
Arp Schnitger
* 1648 +1719

Such a find called for further investigation. A talk with the present owner revealed that while it was not his birthplace, Arp Schnitger had lived for many years in Neuenfelde. He had married a woman of the village and the site of this Hof had been her estate. Since his days the front section has been renovated, but the back quarters are still the same. Driving on into the village, we found an *Arp Schnitgerstrasse* and an *Organistenweg*. Gratifying!

The village church, Evangelical Lutheran, was Schnitger's own church. The interior reminded me in certain respects of the treatment of the castle chapel in Celle: somewhat similar type of paintings, glassed-in stalls, and the liberal use of darker shades relieved by lighter, brighter colors. Here in Neuenfelde are many painted inscriptions on the ceiling of the church, on the crossbeams, below the rear galleries. The building was erected in 1682 and is an example of an attempt at creating a new type of church architecture for Protestant churches. The placement of the pulpit above the altar is markedly unusual. On either side of the pulpit are glassed-in boxes. The Schnitgers had the one on the right, a sign that they were one of the elite families of the congregation. Both husband and wife were buried in the church proper.

Pastor Brümmer, with whom we had a fine visit and talk, gave us much information about the organ. Apparently Schnitger had built about a hundred and five organs in all, mostly in North Germany. Unfortunately, the majority of the remaining ones are quite changed. For his own place of worship, this splendid builder both built and gave the organ which stands in the higher of the two west galleries. The instrument is now under government protection and is maintained by a competent, well-qualified Hamburg builder. The original Schnitger action is still in use. All that has been done to it is that some broken parts have been repaired. It is, of course, entirely tracker action. The wind pressure has not been changed, and the original pitch is still kept — almost a whole tone higher than A 440, evidently the Cornetton mentioned by Ernst Flade. It was the strangest feeling, playing with everything sounding so high and bright — transposed up almost a whole tone. The bellows are now worked electrically, although the six huge poles for pumping by hand are still there, and can be used if the electricity should fail.

Here is the specification of the instrument with its 2007 pipes, some ranks of which are the work of later rebuilding.

(Three vertical rows of stops reading from top to bottom as appearing on the console)

(Left side of claviers)

Rückpositiv (lower manual)	*Werk* (upper manual)	*Pedal*
Noli me tangere	Cimbelstern	Ventil
IV-V Scharff	8′ Trompete	2′ Cornett
1 1/2′ Sifflöte	V-VI Mixtur	16′ Posaune
3′ Quintflöte	2′ Octave	2′ Nachthorn
4′ Plokflöte	II Rauschpfeife	4′ Flöte
8′ Gedackt	4′ Octave	8′ Octave
	16′ Quintadena	

(Right side of claviers)

Pedal	*Werk*	*Rückpositiv*
Tremulant	8′ Vox Humana	8′ Krummhorn
8′ Trompete	III Cimbel	II Terzian
V Mixtur	2′ Spielflöte	2′ Octave
II Rauschpfeife	3′ Nassat	II Sesquialt
4′ Octave	4′ Spitzflöte	8′ Quintadena
16′ Principal	8′ Rohrflöte	4′ Principal
	8′ Principal	

Pastor Brümmer informed me that the Vox Humana is new, but is a copy of an Arp Schnitger Vox Humana at the Jacobikirche in Hamburg, made by the builder now in charge. The rank, however, is not particularly pleasing. The Tremulant affects just the Vox Humana. Located far to either side of the keydesk, on the wall of the case, are the stop knobs, big, thick, wooden ones with square rod shafts that pull out 3½ inches when the stops are drawn.

Both manuals and pedal have the short octave in the bass, but that found on the pedal is different from the short octave employed on the manuals. Manuals: low notes look like E, F, F♯, G, G♯, A, but they sound: C, F, D, G, E, A. On the pedal the bottom notes appear to be: D, D♯, E, F, F♯, etc., but sound: C, D, E, F, F♯. Counting the short octave as one, the manuals have a four octave compass, the pedalboard two octaves plus two notes, $c^1\sharp$ and d^1.

Playing upon the instrument proved several facts conclusively. On such an instrument one must hit the keys down sharply to the bottom. A legato touch will not work. It is too unreliable. Tempi must definitely be slower. The tearing speeds possible with the twentieth-century electrical action are here farcical. Furthermore, it is well worth noting that galloping paces are not missed because there is so much life in the tone produced by this kind of organ. How the sounds of this Neuenfelde instrument delight the listener! Its voices sparkle and shine. Champagne to the ears!

Another organ by the same builder is in the village of Ganderkesee, some miles southwest of Neuenfelde. Here in the old stone church dating from 1352, Lutheran since 1543, stands an instrument of twenty-two speaking stops. Only the manuals were built by Schnitger. They were done in 1699, and he built them for cost alone. Later on, sometime early in the eighteenth century, the pedal division was added by Klappmeyer.

Fräulein Charlotte Kayser, the organist, was happy to display the beauties of her instrument, and we spent several hours together, playing and talking about the old organ. Its registers are:

LEFT

Hauptwerk	*Brustwerk*	*Pedal*
8′ Prinzipal	III Scharf	8′ Prinzipal
8′ Rohrflöte	2′ Spitzflöte	4′ Oktav
2′ Waldflöte	8′ Lieblich Gedackt	16′ Posaune
III Sesquialter		Pedal Koppel
1 1/3′ Quinte		(Hauptwerk zu Pedal)

RIGHT

Pedal	*Brustwerk*	*Hauptwerk*
16′ Subbass	8′ Krummhorn	16′ Quintadena
IV Mixtur	1 1/3′ Sifflöte	4′ Oktav
2′ Kornett	4′ Blockflöte	2′ Oktav
	Tremulant	IV-VI Mixtur
		8′ Trompete

On the front of the organ case, and spread out to some distance on both sides of the console, are the chunky stop knobs, very similar to those at Neuenfelde. Some of them work very stiffly; however, they do not require pulling out nearly as far as some exaggerated accounts about old European instruments would lead one to believe. The distance measures between 3 3/8″ and 3 1/2″.

The manuals, here too, have the short octave in the bass, but oddly enough the pedals built just a few years later, are completely chromatic. The manuals have a four octave range: C - c^3. The pedalboard extends for two octaves: C - c^1.

Fingertip sensations on these keyboards include the curious feel of the little round peg tops that are flush with the key surfaces. These pegs that run down through the keys are used to secure the veneer to the lower part of the key blocks.

The same remarks about touch and tempo that were made for the Neuenfelde organ apply here also.

Coupling of the two manuals is accomplished by shoving the lower one inward.

Practicing on the upper manual of this Ganderkesee organ ought to be prescribed for all members of the profession who are addicted to such pyrotechnics as arm-ballet, snake charming, and the like, while playing. Never have I seen a manual placed in such a confining position as this one. It is entirely under the music rack with several

inches between it and the front of the rack. The player feels as if he were placing his hands into a low box. Actually there is enough room for playing. It simply is a matter of becoming used to the idea of the limited space. Incidently, an electric light for this Brustwerk has now been placed up under and behind the music rack. Before it was installed, the upper keyboard must have been very dark.

In pitch the organ is one-half tone higher than A 440.

Again, in this instrument the tonal characteristics of brilliance coupled with lucidity are present. Polyphonic music could have no better medium for its realization than organs of this type. The wonder of it is that instruments of such tonal vitality could ever have been superceded by the clouded and muddy sounding creations of later ages.

There is no special reason for writing about other organs that I played upon in various parts of the country. However, I was delighted to see one console divorced from its pipework because of its historical significance. While I had previously looked at photographs of it, I had never read anything referring to the disposition of the instrument. Other members of the profession will undoubtedly be as curious as I was to learn at least what can be gleaned from the reading of an unsupplemented list of registers of an organ which Ludwig van Beethoven played for a few years. The console now stands in Beethoven's birthplace, No. 20 Bonngasse in Bonn, the city that now has the added distinction of being the capital of Western Germany as well as Beethoven's birthplace. Before taking the reader into the house for a look at the console, a few words about the dwelling and its surroundings will give a setting for the picture. The stucco-covered stone house with its slate roof is on one of the narrow, cobblestone-paved streets in the old part of the city, close to the Rhine. The area was bombed during the war and many structures were destroyed. Only through the heroic efforts of the citizens was the Beethoven house saved when buildings adjoining it went up in flames. In the years since then the buildings on the street have been reconstructed, and the damage to the exterior of the Beethoven house has been repaired. To the right of the birthplace is the house named "In Mohren," with a large statue of a Moor on its front wall. In this dwelling the Beethoven archives are now kept. The Beethoven house itself is actually an L-shaped building in which a number of families lived. The front section has three full stories covered by a mansard roof. On the first two floors of this part lived the well-to-do owner of the house during Beethoven's childhood. Here the interior still shows the fine and careful finishing. Elegant stucco-work decorations ornament the ceilings. Walls are panelled. Beethoven's parents were renters in the rear wing of the house, which has only two full stories topped by a mansard roof. It was here in the simple, little, roof apartment that the Beethovens lived.

Ludwig was born in the back room that overlooks the small garden. The inside connection, which the visitor now finds between the Beethovens' attic lodging and the main wing of the house, was not there during his days, but today the whole structure serves as a Beethoven museum, and is owned by the Beethoven-Haus Verein. In the living room on the third floor is his last piano, built by Conrad Graf of Vienna. His quartet of beautiful Italian stringed instruments, given to him by Prince Lichnowsky, is also on display: a Niccola Amati violin, a Giovanni Guarnerius violin, a Vincenzo Rugero viola, and an Andrea Guarnerius violoncello.

Among the other displays is the console of an organ upon which the young Beethoven played when he was a boy of ten to twelve. He served as organist for the six o'clock masses at the Minoritenkirche, a monastic church which had been erected between 1274

and 1317. This church, which is now known as the Remigiuskirche, is only two blocks from Beethoven's Bonngasse home. When the boy was playing these early sevices at the church, however, the family no longer lived on Bonngasse. Johann van Beethoven had moved his family at least four times since then. During a rebuilding of the organ at some later date, the old console was removed. It has now been in the possession of the Beethoven Museum for many years. The console has three manuals and a pedalboard, the manuals having a compass of four octaves and two notes, from C - d^3, the pedals a compass of two octaves plus two notes, from C - d^1. There are thirty-three stop knobs, arranged in three horizontal rows up near the top of the tall, box-like structure from which the keyboards project. Any organist would have to be standing to manipulate these knobs, for they are too far above the music rack to be managed from a sitting position. An additional stop knob is set on the cabinet front panel, to the right of the top manual. What its purpose might have been is guesswork — possibly a ventil for the pedal. Here are the names of the stops.

Top Row - Pedal	*Second Row - Manual*	*Third Row*
4′ Trompete	4′ Flöte	8′ Trompet-Disc.
8′ Trompete	4′ Trompete	8′ Krummhorn Disc.
16′ Posaune	8′ Viol da Gamba	8′ Krummhorn Bass
4′ Octavbass	1/2′ Cimpel	1′ Mixtur
8′ Flöte	2/3′ Mixtur	1 1/3′ Quinte
8′ Octavbass	1 3/4′ Terze	2′ Octave
1′ Principal (This is a guess since the name on the label was badly worn.) (However 16′ would be more likely.)	3 1/3′ Quinte	4′ Gedact
	4′ Cornet-Disc.	8′ Principal-Disc.
	2′ Octave	8′ Gedact
	8′ Flöte	4′ Octave
	4′ Tintin----- Disc.??? (Tintinnabulum)?	
	8′ Gedact	
	4′ Octave	
	? ------don	
	8′ ---------- (These last two names cannot be deciphered.)	

Where did the stops for the three manuals divide? Only the two lower rows of knobs applied to the manuals, but the old, and often quite rubbed-off names above the knobs do not specify to which manual the stops belonged.

It seems that the pipes associated with this key-desk were kept at the church and used in the rebuilt instrument. Here they evidently remained until fire destroyed the organ and building during the past war.

When we visited the Remigiuskirche, masons were again at work on it, and rebuilding had proceeded to the point where services were once more possible. We could hear workmen busy on a new organ in the west gallery. Because of the general air of busyness about the place, we did not disturb the workers to ply them with questions.

Before ending this account of the Beethoven organ, I must mention an incident that has given us many a chuckle since it occurred. While we stood in front of the console, in the small chamber of the Beethoven house where it is kept, we were talking about the stops as I copied their names. Another organist was there with us, and as the three of us chatted, a little crowd of sightseers gathered behind us to find out what we

were saying. My husband asked the museum attendant what had happened to the pipes. Then suddenly from the midst of this group, a high, surprised, very English woman's voice was heard: "Oh, it *did* have pipes!" Well, perhaps she thought Beethoven played an electronic?

On our way back to Munich, we stopped for half a day in Nürnberg. It presented a heart-breaking sight even after these eight post-war years, during which time the inhabitants have worked diligently at clearing sites of ruins. Most devastatingly bombed was the whole inner, old part of the city with its treasures of medieval, and fifteenth- and sixteenth-century buildings that had been so carefully cherished through many hundreds of years by the citizens.

Through the generosity of countless unnamed persons, as well as the munificent giving of Mr. Rush Kress of New York, the Lorenzkirche, that church of churches, again stands with doors opened to the worshipper. If I were forced to select just one church in all of West Germany that was in itself a spiritual experience for the Christian, this would be the place.

Of the four organs that were formerly in the church, only one has been replaced so far — the main organ in the west gallery. In rebuilding this large, five-manual instrument that now has four functioning manuals on its five-keyboard console, the architects, the organ builder (the firm of Steinmeyer on Oettingen), and the organ experts have distributed the pipes in the case to much better artistic advantage than in the 1937 organ, so that now the beautiful rose window is completely visible from the floor of the nave and the pipes of the organ frame it.

St. Sebaldus, Johann Pachelbel's old church, famous through the centuries for its music and its art works, is still in desperate condition. The once magnificent main choir with its fifteen (if I recall correctly) tall, slender, lancet Gothic windows, stands open to the elements, arches torn, statuary in fragments on the floor and scattered among the ruins. As yet no Samuel Kress Foundation has been found as benefactor for this beautiful, old house of God that is just a short walking distance away from the Lorenzkirche. To see this Gothic giant from the thirteenth century so broken still, in spite of the efforts of the decimated congregation toward saving what remains, should be a challenge to musicians, art lovers, and Christians in general, here, to help.

Now, after a lapse of ten months, upon looking back over the summer's visits to German churches and organs, I can summarize some of the situations observed in this manner. First of all, having been in many scores of churches, in various parts of Western Germany, I find some facts that stand out, and I shall mention them because of their bearing upon the musical situation.

Church life is one entirely of worship, given over wholly to church services on Sundays and on various weekdays. Energy and money are not divided over a large social program of clubs and auxiliaries with supplementary buildings or wings, housing kitchens and equipment, dining rooms and equipment, social rooms and various other accessory departments such as gymnasiums, bowling alleys, and the like. Also, large Sunday school plants are noticeably absent, and for good reason. *Bible* study is considered so vital to every young person's development that all children have daily classes taught by ordained ministers or priests — depending upon each child's church affiliation — as part of their regular school curriculum all through grammar school, and during high school in regular periods weekly.

In Germany, then, church means exactly that. Everything is done that is possible

to make worship services the offering of the people's best to God. Toward this end go all their efforts.

Churches are larger (and fewer) than they are here. The reason for this is that the multitude of splinter denominations found in America have no place in the scheme of church life in Germany. Two churches are nationally recognized, the Lutheran, and the Roman Catholic. A much higher percentage of churches are favorable to good musical results because of their acoustical properties than is the case here. Building construction is solid. Only the most durable of materials are given place in the structures. Surfaces are usually hard; stone, brick, or plaster over some hard undersurface for the walls; stone, brick, or ceramic tile for the main floors; stone, brick, plaster, or sometimes wood for the ceilings. Larger wall areas are frequently relieved of flatness through the use of sculpture. The curse of carpets and cushions has not been cast upon the sound waves. Majestic height is a feature in many of the interiors, even in churches situated in small towns and villages. The result of these factors is that the acoustics are lively. The presence of the sculpture helps to prevent excessive reverberation. Tones have a glow, a vitality that is felt by the listener.

Organs are most often placed in rear galleries, and when there are two of these galleries, in the higher one. Occasionally organs are on side walls, either in galleries or at gallery height in so-called swallows' nests. Organ pipes are usually in the church proper, not stuck off and bottled up in some annexed chamber as they so often are here. In other words, pipes are given every advantage for good speech. Organ sound blooms.

The attitude of church members toward the musical aspect of the service is different from that displayed in some other countries. The possession of a fine organ is looked upon not as a luxury, but as a necessity. The people devote a higher proportion of their income to helping the advancement and support of things that affect their spiritual life, and correspondingly less on creature comforts, than do people in the Western Hemisphere. Possibly it is because they spend so much in this way, because it is so important to them, that they show so much discrimination between that which is genuine and that which is meretricious. Undoubtedly the fact that money is so hard to obtain influences their use of it, and they look for the greatest real values. A very vital part of their thinking is guided by this question: what will have abiding value and be of use and help to future generations of men as well as to the present generation? Wisdom prompts them to seek the professional guidance of persons qualified in a particular field. This is a standard procedure. The results of these considerations are readily visible to anyone seeking the evidence, the situation of music in church life being but one aspect of the matter, the choice of an instrument an example.

Organs are not chosen by a committee of business men who, regardless of any other abilities they may possess, most certainly have no qualifications for judging artistic merits. The choice of an organ is always made with the professional advice of a highly trained musician who understands this department of music.

One outcome of the wholesale destruction in Germany during the last war is this: in the rebuilding of churches and organs throughout the land, many new instruments show the result of the searching thought that has gone into methods of organ construction in Germany during the past and present generations.

Electronic instruments have no place in the picture. People know that they can get an honest organ of any size to fit the available funds, from a one-manual Positiv, to a large, many-manual instrument.

Of the many organs I heard, the great majority are worthy instruments, and of these, many are truly noble, finely conceived, well-executed works of art. While console lay-outs and appointments may at times seem odd to a westerner, even in the case of new instruments, pipe-work is excellent, and tonal appointments give rewarding results in the realization of music.

Now, to close this account, I want to turn back once more, from the new to the old. Through the keeping, and careful maintaining of old instruments, all those of historical importance being under government monument protection, regardless of where they are, the German government is performing a service to the world of organ building, of which the full value is just beginning to be recognized outside of the country. Builders are becoming interested in the technical procedures used by seventeenth- and eighteenth-century craftsmen, and are experimenting with some of these means for arriving at such satisfying results. Thinking back to the sound of the Schnitger organs I played, I would say that their tone has spirit with refinement. The voices sing, without shouting. In the *fortes* they are elegant rather than bombastic. Because *fortes* on these organs are always achieved by a careful selection of a relatively small number of stops, instead of by an indiscriminate throwing on of full, or nearly full divisions, plus couplers, the resulting sound is something like chamber music. The tone retains musicality, it never shrieks, and never thunders. It never becomes a sodden, lead-weighted, and unwieldy mass.

If organ builders and organists had always kept this musical ideal before them as their goal, organs would never have earned the bad reputation which they so richly deserved in later years among musicians in other branches of music. It is refreshing to be living at a time when this stigma is rapidly disappearing through the work and research of discerning builders and performers in both hemispheres.

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Part Six

THE SILBERMANN TEMPERAMENT

In treatises and discussions of acoustics Silbermann has been given a sort of bad reputation. He is said to have been incorrigibly obstinate, because under no conditions would he agree to equal temperament. He is supposed to have had quarrels about this subject with Johann Sebastian Bach. Whether or not these two masters really quarreled cannot readily be proved, but it can, nevertheless, be assumed with high probability because the question of how to temper an instrument most properly was a common problem for all musicians of that day. It is certain, however, that the disagreement between Bach and Silbermann concerned the development of the pianoforte. The Bach correspondence found in Silbermann's letters cannot have been written before 1725. The first public attack on Silbermann's old-fashioned temperament was made by Mattheson in his letter to Kuhnau referred to above. Mattheson said that Silbermann and the Thuringian organ builder Wender were, to be sure, convinced of the merits of the new Neidhardt temperament, but that they did not want to use it because it would interfere with their established routine. In the Neidhardt temperament six fifths were too small by 1/6 of a Pythagorean comma, three others by 1/12, and only three fifths were completely pure. It is described as the "best and easiest temperament for the monochord" (1706). This is all that Mattheson could have read about the Neidhardt temperament, because none of Neidhardt's other works on the subject were published until later. Furthermore, Silbermann was attacked by the organist Andreas Sorge of Lobenstein in the latter's *Dialogue of the Temperaments of Praetorius, Printz, Werckmeister, Neidhardt and Silbermann*" (1748). He was familiar with Silbermann's organs at Greiz and Burgk, and had studied Silbermann's temperament. In his preface to his *Temperament Dialogue*, he said that "the essence of true beauty in harmony does not lie in absolute purity, but in a well-balanced undulation" ("schwebung"). Some time ago, declared Sorge, the two well-known organ builders, Graichen and Ritter, had not yet come to an understanding of this truth. After painstaking investigations, however, they had given more weight to it just as the famous Frederici were doing at the present time. The basic fault of Silbermann's temperament was the "disagreeable fifth, a♭ - e♭, which was a dissonance rather than a consonance." On account of it, the keys of A♭ major, D♭ major, G♭ major, and B major could be heard only with great discomfort. The major thirds b - d♯ and f♯ - a♯ were equally unpleasant. The keys of F major and B♭ major were fairly usable. Among the minor keys D♯ minor, F minor and B♭ minor, because their thirds which were just a bit too small, caused people to become "intensely melancholy." The "studiosus" asks "How does it happen that a man usually so praiseworthy (i.e. Silbermann) does not do at all well on his temperament?" The "canonicus" answers "That is because of the wrong principles to which he defers in this matter, and because of his lack of understanding of today's practice for which eight or twelve keys are entirely inadequate." Sorge's procedure in arriving at his conclusions in respect to Silbermann's temperament are described in his own words as follows: "If one draws the 4' Octava, the 2 2/3' Quinta and plays g♯, then one hears a pure fifth, which, after retiring the Quinta,

can then be compared with the g♯ - d♯ 'schewebende quinte' produced by the Octava alone. The same method can be used to demonstrate the fault of the major third, g♯ or a♭ - c, by first playing it on the 2′ Octava and the 1 3/5′ Tertia, and then on the 2′ Octava alone by playing both notes." None of these methods of measuring herein described were exact. At that time no accurate instrument for such measurement existed. In Sorge's *Orgelbaumeister* (1773), published shortly before his death, Silbermann's temperament is mentioned once more very briefly with its "terrible, upward moving fifth, g♯ - d♯, and its four barbaric thirds." This impetuous organist at Lobenstein knew his public. He understood the art of a popularized approach. Even a village organist of the time, though unfamiliar with the science of acoustics, probably smiled when he read the following sentences from the *Temperament Dialogue*: "How does the triad a♭ - c - e♭ sound with itself and with other voices and instruments? About like the devil and his grandmother singing a duet, because the fifth a♭ - e♭ has the cold fever and the third a♭ - c has the gout."

In the course of his dissertation, Sorge seems to have realized that his analysis of Silbermann's temperament was not quite so well-founded after all, because he says: "It is not possible to determine it exactly. In a word, Silbermann's way of tempering cannot justifiably exist along with today's practices. For testimony that this is entirely true I call as witnesses all impartial 'musicos' who are acquainted with this subject and especially the world-famous Herr Bach in Leipzig." If Sorge's reputation as a writer were better, his attacks on Silbermann's temperament would be more highly regarded. But after his *Temperament Dialogue* was published it drew fire from all sides. Some of the reproaches mentioned his "unethical behavior, his unspeakable snobbishness," his sophomorishness, and his intellectual impotence. Mattheson, himself, realizes that "that rebel (Sorge) has built his so-called system on sand, and has chosen insecure foundations." Even Adlung said briefly, but pointedly enough, "What kind of out-of-tune ears must this Herr Sorge have?" Johann Sebastian Bach, too, declared himself against Sorge. In short, "the musical mathematician of Lobenstein" came into a bad reputation with musicians because of his exaggerations and his want of moderation. It can be assumed from one place in the *Temperament Dialogue*, that Sorge's attack on Silbermann really stems from hurt pride. Perhaps there had been an argument with Master Silbermann at some organ testing, in which Sorge was the loser. The following passage from the *Temperament Dialogue*, although it does not mention any names, suggests such an incident. "They (organ builders who do not want to learn anything) do not favor the organist, and even think him an idiot who plays in A♭ or one of the other out-of-tune keys, or they see to it that such an organist is not admitted to any of the organ examinations, or to the dedications, and he is not allowed inside the organ." It is a strange and unfortunate accident that these ill-founded conclusions, which Sorge drew from his investigations, were incorporated by Adlung in his *Anleitung zur Musikalischen Gelahrheit* (*Guide to Musical Knowledge*) (1758). He prefaces the quotation from Sorge as follows: "Silbermann would not suffer equal temperament in his organs. He was not among those who are obliged to accept orders, since at all times equal temperament is expressly specified in contracts, and at the examination, tests are made to see whether one key is as pure as another." Ritter, in his *Geschichte des Orgelspiels* and Riemann in his *Katechismus der Akustik* referred to Sorge. In the latter, the fifth a♭ - e♭ which is 5/6 of a comma, or 1/10 of a tone (.0163) too large, is described as the worst wolf in any temperament. A few lines later, however, he speaks of another temperament which, in the same fifth,

had as many as two commas too many. And when treating the mean tone temperament he even speaks of a wolf fifth which was 1/5 of a tone too large. If, on the other hand, we read what the organ examiners had to say about the temperament of Silbermann organs, we always find the same words of praise and satisfaction. Kuhnau found a few pipes in the Freiberg Cathedral organ which did not satisfy him so far as their tuning was concerned. Silbermann improved them to Kuhnau's satisfaction. In Rötha, also, Kuhnau testified to the correctness of the temperament. The "musical and geometrical principles" of the organ in the Dresden Frauenkirche were praised by the city council of Dresden. However, on June 19, 1742, Tobias Schramm wrote in the record that the tuning of this same organ had been carried out with insufficient diligence. This remark might be taken as coming from a proponent of the modern equal temperament. Immediately afterwards, the pure tuning of the work in Zittau was emphasized. In Silbermann's time, it was expected that an organ temperament should be good enough so that "a common ear would not be offended by it." (Daniel Silbermann's professional opinion). Would the organ examiners, all of them competent musicians, have called Silbermann's temperament good if it was decidedly not so? Would Johann Sebastian Bach, who reigned with sovereign freedom in the realm of harmony, have played four hours on Silbermann's Dresden organs if his musical fantasy had been disturbed by ugly dissonances? That seems just about as absurd as the assumption that famous Dresden musicians, like Friedemann Bach, Petzold, Rheinhold, Gräbner, and others, were so overawed by Silbermann's authority that they would not have demanded a better temperament of Silbermann's organs if the old one had seemed to them to be unusable. Today, none of Silbermann's organs are in their original temperament. Even his works at Fraureuth and Ponitz, that have been relatively untouched by a tuning cone (stimmhorn), have had some of their pipes shortened. Therefore, exact observation of the present length of the pipes does not give clear indication of the original temperament. It is doubtful whether an acoustically trained musician of the present day would be able to recognize as such an organ with the original Silbermann temperament when it is being artistically used in the performance of of music. The issue was a "monk's quarrel," a bickering over figures and numbers, as was characteristic of those times. The primary reasons for it are to be sought in the fact that from a very early time there had been confusion on the subject of harmony. This is made evident in the works of Landino (1325-1390), Paumann (died 1743), Arnold Schlick (1511), and very clearly in those of Bassani Padua (1657-1726). Furthermore, the performances of orchestras and choruses are not in equal temperament, and yet our ear is not offended by it. "Our comprehending mind remains supremely eclectic and hears, so long as things are not completely confused, only what it requires." This latitude of pitch localization was just as effective in the hearing of one of the old systems of tuning as it is in the modern one. The best evidence of the fact that unequal temperament was mainly recognizable only in the cruel sounding fifth, g♯ - d♯, is offered by Werckmeister. He thinks that d♯ should be tuned just a little lower, and g♯ - d♯ will become bearable, and "our temperaments are by no means as distant from the ancients' as some people suppose." Another defender of the new way of tuning, Niedhardt, declares quite frankly, "the organ builders cannot be blamed because they do not want equal temperament to get into their organs, since the keys lost their individual characteristic expressiveness through the new tuning. Also, wood-wind instruments were tuned to the old temperament in their boring, and brass instruments in the length of their slides. In playing, the pitch can be raised somewhat in *piano*, not at all in *forte*; it cannot be

lowered at all. The new way of tuning sounded harsh to ears that were unaccustomed to it, unharmonious, and even wrong. One had to adjust to the new intervals through long listening. In France, adherence to the old system was particularly strong among organ builders. Bédos called the followers of the new system "mathematicians," those of the old, "harmonistes." The latter group attempted to secure purity of thirds at the expense of the fifths, which they made somewhat more out-of-tune. They reduced eleven fifths by 1/4 syntonic comma (81:80); by this method, eight completely pure major thirds were effected. The surplus of 1 3/4 syntonic commas (1 29/48 Pythagorean commas) was transferred to the fifth, g♯ - d♯, so that this fifth was, as it were, sacrificed. This selective system, the so-called mean tone temperament, was, according to d'Alemberte, commonly used in France in the year 1760. Schlick had already taught this quite usable method of tuning. It was later recommended by Prætorius, Calvisius, and Printz. Germany, according to Rimbault, was the only country where, due to Bach's activity, this system of tuning was soon forgotten. Nevertheless, the abbot Vogler (1749-1814) still spoke in favor of this old system. Given in the first book on piano building, published in 1836, the unequal temperament is recommended for stringed keyboard instruments. In England, it could be found up to the middle of the nineteenth century, and in Spain, it is said to be still in use.

Equal temperament seems very unsuitable for organs for the reason that the mutations and the mixtures have to be tuned pure, and create in combination with the tempered intervals a "restless and buzzing noise." That is the reason why today "the mixtures played with full organ make a hellish noise, and why the mixtures of the precious old organs sometimes have an offensive sharpness." According to Rimbault, the neglect of the independent tierce, since the beginning of the nineteenth century, is due to this difficulty. This suggests itself as an explanation of the fact that from the time when equal temperament was commonly adopted, even in organs, a general aversion for mixtures began to be felt everywhere. All of these reasons against the use of the new tuning were doubtless well known to Silbermann, and if he did use the old method, very probably the one mentioned by Bédos, he did not do it out of stubborness and lack of understanding, but because to him the old practice seemed to have offered better musical advantages. Silbermann did not want to sacrifice the virtues of an old reliable method in favor of the still doubtful advantages of the new one. With the old temperament there was one wolf, certainly a bad one; with the new one, on the other hand, there was a "whole nestful of young wolves," and, in addition, all kinds of buzzy and scratchy noises, especially with the narrowly scaled stops.

An unfavorable influence on the tone has also been attributed to the practices of slotting and nicking. The former was never used by Silbermann. That the nicks of the Fraureuth organ are a later addition can be assumed, because there are no such voicing aids in Ponitz. However, they were known to German organ builders before Silbermann's time.

The stop which was the starting point for tuning was the 4′ Principal. Esias Compenius explains why the 8′ Principal was not used for this purpose. "The 8′ Principal is equal to the 8′ Regal, and equals are hypocrites and act deceptively toward each other." According to Bédos, the 4′ Principal has the name of "Prästant" not because of "the excellence of its harmony" or because of its position in the Prospect, but because of its position in the entire range of pitch which is exactly in the middle between the highest and lowest tones of the organ. The 4′ Principal is eminently well suited for this

purpose because the exact pitch of each pipe is easy to recognize, and single overtones are not unduly prominent. Slight deviations from the proper tuning may be corrected in smaller pipes of this stop with the tuning cone, which was used by Silbermann for this purpose. In Ponitz and Fraureuth a few pipes were found with marks of the tuning cone.

The voicing was done simultaneously with or previous to the tuning. Even now Silbermann is recognized in this art by all those who know his organs, so it seems unnecessary to give especial praise to the beauty of his voicing. In each of Silbermann's organ examinations, and in each "orgelcarmen" the "lovely sharpness and precise silverly sound" are emphasized. In contrast with this, Silbermann, himself, found the organ in the Paulinerkirche in Leipizg to be "blunt, unsympathetic, and terribly voiced." He makes it clear that he would consider it a great mistake to deprive his pipes of their "grace and exactness" by adjusting them to this style of voicing. The "argentine" sound which Casparini gave to his sun organ was a result of low wind pressure. The same was presupposed in the works of the Strasbourg Silbermanns, and still today their organs have a refreshing, silvery sound. Absolute quiet was essential for tuning and voicing. For this reason, organ builders commonly used the hours of night for this work. Silbermann usually requested that during the last few months before the organ dedication the church services be restricted so that he could tune undisturbed. The consicentiousness with which he undertook this commonly disliked work is admirable. For the Freiberg Cathedral organ he required six months, and at Zittau, five.

SILBERMANN'S STOPS

Silbermann's stops may be judged from his table of materials. The most important voice in his organ is the Principal. It is outstanding in the quality of its material, being nearly pure English tin, in its excellent workmanship, high polish, and in its characteristic voicing. With the exception of the lowest wooden pipes, it is located in the Prospect, and receives its wind through conductors. Silbermann gave it the scale which was to be the determining one for its division: large and solemn in the Hauptwerk, delicate and sweet in the Brustwerk, sharp and penetrating in the Oberwerk, and strong and penetrating in the Pedal. The earliest writings on organ building, including Schlick's *Spiegel*, Prætorius' *Syntagma*, Werckmeister's *Orgelprobe*, all recommend this means of characterizing these divisions. Bédos follows them. He distinguishes Principals of small, medium and large scale. Casparini and Andreas Silbermann, as active artists, also gave their manuals sharply differentiated Principal scales. Silbermann's Principals had no peculiarities in their construction. They were without beards, without protruding ears, and were originally without nicks. The following measurements are the circumferences of the Principals of the Fraureuth organ:

Hauptwerk 8′ Prinzipal: lowest C of wood, c - 270 mm. (10.6″), c^1 - 145 mm. (5.8″), c^2 - 83 mm. (3.2″), c^3 - 50 mm. (2″). 2′ Octave: C - 145 mm. (5.8″).

Oberwerk 2′ Octave: C - 132 mm. (5.2″). The corresponding notes of the Principals of each division are of the same scale. The cut-up is 2/7 of the mouth width, and the languid face is 1/3 of the height of the cut-up. All organ critics attach great importance to the thickness of the languid. The 8′ Unda Maris was a wavering Principal, "a trembling flute." Silbermann built one first for the Sophienkirche in Dresden at the urgent request of the court organist, Richter, in 1747. The undulation of this voice was caused by tuning it somewhat higher. Combining it with the 8′ Principal produced a celeste effect. Apparently Casparini's Piffaro, or Vox Humana, served as a model. It is noteworthy

that around the middle of the eighteenth century there was an increasing demand for milder colors. The 4′ Flöte which Silbermann used occasionally had more or less a Principal scale. Only its upper pipes were open; the lower octaves were usually built as Rohr Flutes or Gedackts. It was supposed to be used to reinforce the Principal. According to Mattheson, Sifflet (in Silbermann's original contracts almost always mentioned as Sufflöt) is really "a kind of Hohlflöte or Waldflöte among the Principals of the entire organ." It is remarkable that the name of this organ stop almost always appears in German contracts with the vowel "u", as at Dresden (1563) Sufflet, Münster (1579) Schufflet. Prætorius has Sufflot, Suifflöt, Subflöte and Sifflöt. The orchestral instrument on which this organ stop was based was probably the Zuffolo. This instrument was, like Pan's Pipes, composed of a number of individual flutes, and had a range from f^2 to e^3 and thus corresponded in almost its entire range to the organ stop. From the beginning of the thirteenth century it was known in Italy (military music of Florence). At the same time it was mentioned in France as Siblet, Chiffiet, Sublet, and was still to be found in the Hamburg opera at the beginning of the eighteenth century. As an organ stop it was built as late as 1775 by the abbot F. H. Christmann at St. Florian's near Linz with the name 8′ Ciuffoli di Primavera and 3′ Ciuffoli Protei. The Flageolet, the last of the beak flutes, also belonged to the seventeenth-century orchestra. Silbermann liked to use this voice, which was built with a somewhat narrower scale than the Sufflet. At Zittau he figured its cost at eight thaler, which was probably more for the meticulously exact workmanship than for the value of the materials. Although Bédos does not mention the stop, he does speak of a combination of 2′ Quarte du Nazard and 2′ Doublette of the Grand Orgue with two 8′ stops of the Positiv, which was supposed to have the effect of the Flageolet. Mersenne combines the independent Flageolet with the 8′ Bourdon.

The tapered pipes are called "tuyaux à fuseau" in French organ building and "Spindelpfeifen" in Germany, and Spillflöte by Prætorius. Silbermann gives the latter name to his Viola di Gamba. The Spitzflutes apparently originated before the Gedackts. Schlick spoke of the narrow and wide measurements of Gemshorns. One hundred years later a distinction had already been made between a 16′ Gross Gemshorn for the Pedal and an 8′ Equal Gemshorn, "a strange, lovely and sweet voice which might be entitled Viol di Gamba." This is Silbermann's Gamba. Its conic structure is emphasized in almost all his organ specifications. This stop had no beards. Its upper lips were of triangular form. On many pipes of this stop and of the closely related Spitzflöte traces of work with the tuning cone can be found, a proof that it was extremely difficult to voice these stops accurately and to give them the right sound. Silbermann was opposed to sharply string-like stops, especially the narrowly scaled Gamba Naturelle (c.f. organ at Greiz) with its cylindrical scale. He called it "saccharin, withered and unworthy." He was not alone in this opinion. Trost built a conic Gamba in the organ at Altenberg Castle, and Knecht, in his famous *Organ School* (1795-1798) lists this voice and the Gemshorn and the Schweizerflöte as among the conic pipes with low cut-up. Silbermann shares his aversion to the string with French organ builders. Bédos knew only one member of the string family, the 4′ Violenbass. Its voicing caused the organ builder a lot of trouble, and since it was an octave speaking voice with double length, a lot of money. Therefore it was only occasionally built. "Spillflöte" became "Spielflöte", after the term "Spille" was no longer understood. In its sound it is identical to the Spitzflöte, which Silbermann always used as a 4′ stop, and with Gemshorn, a voice used only twice in Silbermann's organs, both times at 2′ pitch. Finally, the 1 1/3′ Quinta, or Larigot, was constructed as a Spitz-

flöte, being of a tapered scale.

The earliest traceable Gedackt is a Quintaden. Since originally the caps were soldered on, this stop had to be given ears as a means of tuning. The ears also guided the wind stream. This method of tuning was quite inconvenient. After about 1700 movable, leather-lined caps were used on these stops. By raising or lowering them the pitch could be accurately controlled. These moveable caps are also found on Silbermann's Gedackts. At the organ examination it was considered necessary to ascertain "whether good caps had been used; whether or not some pipes had been fitted by means of extra layers of paper under the caps; whether the caps were stuck; and whether or not the pipes under the caps were, by chance, injured by being pressed together." (These items are from Daniel Silbermann's *Professional Opinion.*) Silbermann's 16′ and 8′ Quintaden had only small "Winkelbärte" (angle beards). They yielded a strange, lustrous and colorful tone, which was caused by the gentle sounding of the twelfth. Its peculiar beauty was highly praised by Silbermann's contemporaries. Silbermann frequently used for Gedackt and Rohrflöte the name "Bourdon," to which he had become accustomed during his years in Alsace. In its construction, a combination of both types is to be seen, as the lower octaves were regularly covered Gedackts, and the higher ones were made as Rohrflutes. The 4′ Rohrflöte is open in the highest octave, since in the highest notes the little chimneys cannot be made with the desired accuracy. This custom was apparently originated by Andreas Silbermann and his sons. There are also occasionally combinations of different materials, in that the lower octaves are sometimes of wood, while the higher ones were always metal. It was the common metal, called "étoffe" in France, which was favorable to that lovely, dull shine which characterizes these stops. Occasionally in inexpensive organs, and generally for the lowest-pitched stops, especially of the Pedal organ, wood was used for the entire gamut of these voices. Sometimes in Silbermann's organs, large stopped pipes are singly or doubly mitered at right angles. Bass pipes of the 8′ Gedackt in the Oberwerk and the 16′ Subbass in the Pedal of the Fraureuth organ are examples. Silbermann also built the mutation, 2 2/3′ Nasat as a Rohrflute. In this way the Quinta was made less prominent. Bédos especially mentions the good effect of such Rohrflötenquinten. In Silbermann's organ there is also found an open 2 2/3′ Quint in the Hauptwerk. Of the two Tierce registers in Silbermanns, the one at 1 3/5′ is usually in the Hauptwerk; the other, usually called Sesquialtera, which stands at 4/5′ pitch with a repetition on c whereby it becomes 1 3/5′, is in the Oberwerk. The importance of Silbermann's mutation stops has often been misjudged They not only serve to fill out, color, and sharpen the Ripieno, as Casparini thought they should, but also, as a means of achieving beautiful combinations, as Silbermann, himself, mentioned in his registration instructions found inside the organ. The latter is the real reason why Silbermann (again after the French example) built not only Quints, but also Tierces, as separately drawn stops. However, he used only the higher-pitched Quints and Tierces, while Bédos recommends the 5 1/3′ Gros Nazard and the 3 1/5′ Gross Tierce. With Prætorius we seek in vain for independent Tierces. Werckmeister speaks of the old two rank and the new single rank Sesquialtera. At the renovation of the organ at Grüningen a Terz was added to both the Oberwerk and the Rückpositiv, replacing a small 4′ Querflöte and a 1′ Sifflöt, respectively. Progressive organists and organ builders again used separately controlled Quints, Tierces, and even, according to Kirnberger's example, Sevenths. However, the Silbermann manner of voicing these stops seems to have been forgotten.

The one mixture which did not become common in German organs until after Gottfried Silbermann had set the example was the Kornett, a broad-scaled but brilliant stop, without breaks, always containing a tierce. The prominent position on a special pipe bench which this stop was given in large organs was characteristically French. It contained five ranks, of which the lowest was an 8′ Rohrflöte. Its range was from middle c up to the highest note. The Echo Kornett was located in an enclosed chamber in large organs. In small organs, the Kornett has only three ranks; 2 2/3′, 2′, and 1 3/5′. The broad scale of one of Silbermann's Kornetts can best be judged by comparing it with the scale of the Mixture. The lowest pipe of the III Kornett of the Fraureuth organ had for c^1 a circumference of 85 mm. (3.3″), producing the note g^2. The corresponding pipe of the IV Mixture, on the other hand, had a circumference of only 60 mm. (2.4″). In his Mixtures, Silbermann adhered strictly to the practices which he had learned during his Alsatian-French apprenticeship. But while Bédos suggests mixture breaks on f, and only for Cymbel on c and g, Gottfried Silbermann followed the method of his brother, Andreas, in which both of these stops had their breaks on c and g. The Cymbels always supplement the mixtures so that the predominant foundation tone is enhanced in the *tutti*. The material was always the best tin; the scale, the one of the Principal in that division. The circumference of the lowest mixture pipe, g^1 (on key C) is 100 mm. (4″), of the pipe g^2 (key c), 60 mm. (2.4″). The circumference of the lowest Cymbel pipe (on Key C) was 74 mm. (3″), just as large as that of the 1′ Sufflöt, and of the 2′ Oktav on the key c. The last three stops cited are in the Oberwerk at Fraureuth.

While Casparini built a XII Mixture, Silbermann got along with only from III to VI. Silbermann's strongest mixture is the VI Plein Jeu in the Pedal of his largest organs. Actually, in Bédos' time, French organ builders meant by Plein Jeu a combination of mixtures and Cymbels in the manuals.

THE REED STOPS

Silbermann retained a certain preference for reed stops from his Strasbourg days. In his organs these brilliant, expensive, and difficult-to-handle stops were restored to the relationship to the flue work which they had enjoyed in the sixteenth century in Germany. The cultural decline brought about by the Thirty Years War prompted German organ builders to restrict themselves to very few of these stops. In France these external difficulties did not exist. In French music, trumpets and other wind instruments had been very popular for several centuries. It is no wonder that French organ builders reflected in their dispositions this national characteristic of French music. The French reed stops were Silbermann's models. The 16′ Posaune, 8′ and 4′ Trompete, and 4′ Clarin all belonged to the family that is characterized by its inverted conic resonators. In this same class Silbermann several times planned to build a 32′ Posaunenbass, but limitations of space prevented his carrying out this plan. The 16′ Posaune is a stop which illustrates the fact that Silbermann did not stand still, but progressed as he learned more about his art. In the early example at the Freiberg Cathedral he used relatively small and unlined shallots. In it the tongue vibrated against the block, as it was unlined, and the sound of this stop was considered disagreeable and described as possessing "too wild a force." In 1719, acting on the advice of the Cathedral organist, Lindner, Silbermann offered to attach "to the tubes of the present Posaunenbass a set of new and large shallots of a kind that he, himself, invented just two years before, and to line both the Posaunenbass and the Trompettenbass." The large brass tongues were to be

"thicker than the back of a knife blade," the largest shallot would weigh between eight and nine pounds, and the feet were to be made of good maple wood. In the stop list for the organ at the Freiberg Cathedral, Silbermann called the Trombone by its French name, "Bombarde." Originally, its bell mouths were to have been made entirely of wood. Later he used 400 pounds of tin on them. Their "tubes must be soaked well on the inside with a liquid glue so that no worms will get into them." Silbermann's Posaune, which he always used at 16′ and in the Pedal, is quite penetrating and very powerful, yet nobly voiced. It is the voice of solemn majesty. The 8′ Trompete, which Bédos praised as an organ stop of great brilliance, is to be found in each of the larger Silbermann organs containing more than twenty-five stops. He used it on the manual as well as in the Pedal. Its tone is festive, brilliant, and of a blunt but somewhat refreshing naturalness. If one compares a Silbermann Trompete with a similar stop in the works of Bédos, Mutin, and Giesecke, it will be observed that only Silbermann's stop continues throughout gamut, while those of the others repeat the highest octave, or beginning with the highest f♯ [our 43rd note]. Silbermann's bell mouth sections at the upper end of the pipes are relatively short, but in the measurements of the shallots and the upper diameters he coincides largely with Bédos' dimensions. After the collection of Dresden organ dispositions, reed stops were built shorter and of narrower scale, "in order to eliminate the rattling of the tubes, and to bring about a closer similarity to the imitated instruments." The 4′ Claron is the Octave to the Trompete. On the manual, Silbermann used it only once, in the Hauptwerk of the Cathedral organ. This example repeats itself in the upper range. It is a much more effective stop in the Pedal where it gives the desired clarity to the dark pedal tones, and thus justifies its name. According to the Sundhausen stop list for the organ of the Catholic Court Church at Dresden, Silbermann was thinking of building a 2′ Kornetto for the Pedal. With this stop, which he did not actually build in the organ, Silbermann apparently wanted to revive a voice that had been quite common in German organs. Adlung still knew about the stop, and reported that it sounded as if "lambs were crying." Schlimbach, also had no particularly good opinion of the stop, with its "bleating sheep's tone."

The Krummhorn belongs to the group of reed stops with cylindrical resonators. It is one of the oldest reed voices, having been in use in Germany since the end of the fifthteenth century. Silbermann built only one, at Freiberg Cathdral. The tone of this Krummhorn is such that it seems usable only in combination. From the *Syntagma* we learn that almost every organ builder built this stop after his own design. The upper end of the resonators sometimes took on rather adventurous forms, presenting a strange appearance. At Bédos' time one general pattern was followed, but its scale was by no means the same everywhere. The pipes were four feet long, but sounded at 8′ pitch, and because of its soft sound they were usually found in the Rückpositiv.

In the Freiberg Cathedral there was also a Vox Humana, so that the sound of these two voices can be easily compared. Silbermann's contemporaries were enthusiastic about this voice. It needs, however, a strong accompaniment of flue work tone to justify its name. That was generally the case in organs of the time. "One always takes an equal-toned voice from the flue work, in order to cover the rattling of the reed, as for example, an 8′ Principal with an 8′ Trompette. If any similarity with the human voice is to be revealed, the Vox Humana must be played, if not with the Principal, as Silbermann suggested, then at least with the Gedackt or Rohrflöte. But the voice best suited for this purpose is the 8′ Hohlflöte." This note of Marburg's has to be taken into consideration

when judging Silbermann's Vox Humana. There is the further fact that all reed voices deteriorate with the passage of time. The various Silbermann Vox Humana stops are of unequal worth. It is very good at Ponitz. Adlung praises the one at Greiz. He says that it lacks nothing but words. From his further comments, however, it must be assumed that he judged the stop only from hearsay. Silbermann always connected the Schwebung with this stop. He did that in order to make the illusion of the human voice more complete. The tremulant, however, was a real mischief maker. It made speech slow so that some notes did not sound at all. Perhaps that is why Silbermann needed three weeks for the tuning of this stop alone at Reichenbach. Silbermann's Vox Humana pipes are made just like those of the Krummhorn, except that they have a cover which decreases gradually from the lowest notes to the highest notes, so that the latter are completely open. The cylindrical upper sections of the pipe are very short; the feet are relatively long.

To this same family also belongs Silbermann's 16′ Fagott, which has normal length, but is of a rather narrow scale. In the work of Bédos, the resonators consisted of either one or two double cones soldered onto each other. These same resonators were used by German organ builders for Krummhorn, Bärpfeife, and Trichteregal. They are somewhat similar to the resonator used by Helmholtz. These hollow metal spheres emphasize certain overtones so that they stand out clearly from the rest of the tone and produce a tone of unusual structure. The last of Silbermann's reeds is the Chalumeaux. According to Marburg, the French stop of this name was conversely conical, of fine tin, and ran throughout the gamut of the Hauptwerk as well as in the Positiv. It produced an 8′ sound, but was only four feet long. The tone was somewhat weaker than that of the Krummhorn and very similar to that of a Musette. This stop in the Catholic Court organ, however, begins only at g below middle c, and in its cylindrical scale is very much like a modern Clarinet. The instrument of the same name was still required for the opera scores of Hasse and Gluck. However, the composers of the eighteenth century, according to Mattheson in the *Musicus Autodidactus*, speak disparingly of this "now rusty instrument." During the sixteenth century and continuing through the eighteenth century there was considerable confusion in the use of the name Chalumeau for the organ voice as well as for the orchestral instrument. For this reason Schlimbach gives vivid expression to his dissatisfaction with the arbitrary action of organ builders in giving names to their registers. To the Schalmei-Chalumeau he does not attribute any definite, characteristic style.

For the composition and structure of a Silbermann disposition the 8′ is always decisive in the manual, the 16′ in the pedal. It can be inferred from Casparini's low-pitched mutations that he considered the manual 16′ Principal as the basis of his disposition. German organ builders of the time, on the other hand, generally used the 8′ as the foundation for the organs and considered the other voices only from the standpoint that they supported and ornamented the 8′ line. In most of Silbermann's organs there is in the Hauptwerk an 8′ Principal, in two manual works there is also a 4′ Principal and an 8′ Gedackt on the second manual. His larger organs have in the Hauptwerk four 8′ stops, namely an 8′ Principal which is open, a second 8′ stop which is half open or conical such as an 8′ Rohrflöte or an 8′ Viola di Gamba, the third a covered stop such as an 8′ Bourdon or 8′ Quintaden, and the fourth, a reed, an 8′ Trompete. In addition, Silbermann occasionally used two 16′ stops but, as a rule, he used either a 16′ Bourdun or a 16′ Principal alone on the Hauptwerk. For Silbermann, 16′ manual stops and 32′ pedal

stops served only as secondary elements. With the Hauptwerk 8′ Principal he always installed an open 2 2/3′ Quinta, but with the 8′ Gedackt he used a stopped 2 2/3′ Nasat. Each stop of a Silbermann organ introduced something new in color and tone, so that an important requirement of the time is fulfilled, namely, that by adding stops a crescendo must be heard. The overtone stops are placed in the disposition and planned each with reference to its effect on the full sound. Since the overtones close to the foundation tone are more clearly audible than the upper ones, the disposition must be planned accordingly. However, the higher partial tones, and especially the odd numbered ones, must not be lacking if the organ is to have an expressive sound. There should be no gaps in the harmonic series. A 1 1/3′ Quinta is based on a 2′ Octave and a 1 3/5′ Terz. In Silbermann organs, the overtones are represented by independently controlled stops as well as in the mixtures.

Agricola found fault with the all-too-uniform dispositions of Silbermann organs. He attributed it to a certain timidity on the part of Silbermann, as if Silbermann did not build any stop unless he was from the very beginning convinced of its success. To be sure, on paper Silbermann's dispositions do look monotonous. But it was early recognized that with Silbermann's varied scales the dispositions did not have to be changed at all. The real reason that Silbermann limited himself to relatively few voices is to be found in in a principle of artistic economy and a justifiable conservatism. Each manual of a Silbermann organ has its own characteristic timbre, each has something to intensify the full sound. In some organs that have been built during very recent decades, the second and third keyboards contain gradually weaker voices so that the total sound is dimmed and not intensified by coupling. Such organs are aberrations which would never have been possible with faithful deference to Silbermann's tradition.

Silbermann's ideas of registration have come to light twice in the course of our investigation, at Grosshartmannsdorf and at Fraureuth. These written suggestions show an amazing number of stop combinations. The independent mutations have a very striking effect in all combinations, beginning with the Tertian, Kornett, Nassat, and Sufflöt combinations and ending with the attractive Stahlspiel, all of which were intended to be solo combinations. It also becomes apparent from these notes that Silbermann's organs were intended for indepedent use of each manual. For only once, in the full organ combinations, is coupling of the manuals mentioned. It is of particular importance to notice that this full organ does not by any means include all the stops in the organ. The organ at Grosshartmannsdorf has twenty-one stops, of which sixteen were suggested for the full organ combination. Esias Compenius had already demanded in his handwritten treatise that no Gedackts should be used in full organ, "except where there are no foundation stops but the Gedackt." And Marburg wants for full organ "only Principals and perfectly tuned reeds." This full organ of Silbermann may be considered the same as the Organo Pleno demanded by Johann Sebastian Bach. In many organs this requirement of Bach's can never be taken to mean a combination of all stops. Through tradition some of Silbermann's combinations have been maintained here and there. Their historical development may be traced back to the register instructions given by Mersenne. Some of them are exactly the same as those of the French music theoretician, Raison (1688), and Bédos has elaborated further upon them.

Silbermann lived in a time during which the life of the individual was centered much more around the church than today. The music of the German population, with very few exceptions, was in general oriented around this one institution. Thus is is not sur-

prising that Silbermann emphasized this one aspect, the organ as the support for congregational singing. His organs, because of their well-balanced dispositions, were ideally suited for this purpose. The great organists of the time were enthusiastic about the beauty of Silbermann's voicing, which became apparent only in the artistic playing of the instrument. Among these great musicians who played and appreciated Silbermann instruments were Johann Sebastian Bach and his son, Friedemann, his pupils J. L. Krebs, Hartwich, and Gräbner, and later Mozart and Mendelssohn, as well as the many other cantors and organists since Silbermann's day. The interest which Silbermann's sovereigns and their court poet Ulrich König took in the master craftsman and artist was more because of his piano building, but Frederick the Great was also interested in the genial organ builder. He had himself led up the crooked, narrow stair case to the organ loft of the Frauenkirche and listened to the sound of this organ which, to be sure, had suffered from damage during the bombardment of Dresden. The sincere attachment of the various communities to "their" Silbermann organs is frequently quite touching. It may be noted from the many memorial celebrations that have been held. He has never been forgotten, especially in the neighborhood of his birthplace. The house in which he was born, and the house in which he lived in Freiberg, have been marked by memorial plaques. A foundation which has existed since 1862 and helps young organ builders in their studies, and a street in Dresden, both named after Silbermann, keep his memory alive. Also in foreign countries, and especially in England, Silbermann's name has not been forgotten. Although Burney says little about German organ building, he was overwhelmed by the effect of Silbermann's *tutti*. The report of another English musician, Edward Holmes, who traveled in Germany in about 1828 and came to know Silbermann's organs, can only be read with the greatest sympathy. He says that an English music lover could hardly imagine how a piece full of artistic counterpoint could be made to come to life on a German Silbermann organ. "Here the player is surrounded by a flood of tones that react to the slightest movement of his fingers. Here thunder slumbers in the pedal harmlessly at his feet. The power, depth, and the independence of the pedal justify the superiority of the fugue over any other musical form. The deep sections of the magnificently rolling bass resemble the 'let-it-be-so' of God Almighty." The author recommends a combination of the sweet tone of the Cathedral organ, for which the instruments at the Temple and the Westminster Abbey were famous, with the brilliance of Silbermann's organs. In this way, he felt, a perfect type of instrument could be achieved. French and Belgian music historians also speak of Silbermann with warm enthusiasm, among them Adam, Hamel, Fetis, Gregoire, Charles Marie Widor, and others.

Silbermann's personality rarely appears as clearly as in his dealings with his employers. From the earliest times a contract used to be made between the organ builder and the community. A detailed account of mutual liabilities and obligations was set down. Despite all precautions of the communities, however, organ builders were usually able to exact a gratuity under all kinds of pretexts. A means for such an end, for example, was stops delivered over and above the contract. As is shown in the case of the Zittau organ, Silbermann was not averse to receiving such a gratuity, and when the city council and deputies did not acknowledge this old custom, he expressed his dissatisfaction in harsh words. In this respect Silbermann could refer to the most respected writers about the organ of the time. Trost admonishes "not to be stingy toward the organ builder." Werckmeister also mentions as the customary procedure, to quote, "to present to the organ builder a monetary gift and to tip his apprentices. Also, the organ exami-

nation is usually closed with a feast, a toast, together with good discourse and conversation." Adlung expresses this rather drastically when he says that an organ builder should be better paid for his art than a carpenter for the construction of a pig sty. It is particularly true of German organ building, that its products have not been paid for as well as they deserve, either in former centuries or in the present day. Silberman, of whose riches there had been many rumors, serves as a good example. But Silbermann was an artist and a careful businessman who did not build without carefully determining the costs, and who, when he build in "foreign" countries, as with the organs at Greiz, Ponitz and Fraureuth, even stipulated the kind of coin in which he was to be paid. Nevertheless, Silbermann's pupil, Oehme, declared in a letter to the council of Freiberg that Silbermann "did not become affluent through the work of his hands, but quite by accident." Oehme apparently referred to Silbermann's romantic adventure in Strasbourg, where Silbermann had been able to abduct the jewels of the lady, but not the lady herself. The largest part of Silbermann's fortune probably came from the extraordinarily large sum he received for the organ of the Catholic Courth Church. Otherwise, the various valuables he left show that he was quite taken by the sparkle of gold and jewels. The precious garments and furs mentioned in his will prove that he was able to emphasize outwardly his position as a well-to-do court and national organ builder.

It is known that, especially in the last years of his life, he had become quite sullen and not at all affable, especially toward strangers. He suffered from gout and mental depressionss. The businessman, otherwise so sober, had at certain times quick fits of temper. At one time he destroyed with an axe the instrument built by one of his pupils, which had met with more approval than his own. Thus, it is easy to understand that at almost all times of his life he lived on bad terms with someone. In his legal suits against Hebenstreit, the organ builder Hähnel, and his pupil Hildebrand, he believed himself to have been deeply injured, as evidenced by his legal claims. Only toward the end of his life did he come to terms with the two organ builders. Silbermann's intercourse with the great musicains who lived at Dresden at that time must have been quite extensive. This is attested by the various letters he received from Pisendel, Bach (probably Friedemann), Gräbner and Hebenstreit, and which were found in his effects. He had friendly relations with the organists Lindner, Krebs, Ersalius and Clemm. The latter is even mentioned in his last will and testament. He found energetic supporters in the superintendents at Freiberg, Dresden and Zwickau respectively. He was highly respected by the ministers M. Rothe of Fraureuth, M. Olischer of Reichenback, and many others. The clergy, as well as the majority of all educated people of the time, were enthusiastically interested in music. Silbermann's relations with his fellow organ builders were also very cordial despite occasional tensions. Since the building of the organ in the Sophienkirche in Dresden he was generally recognized as the outstanding authority in organ building problems. The young organ builder Martini referred to him when the organists Gräbner and Petzold wanted him to build a Vox Humana as a reed stop, and to build the low C♯. Finally Silbermann, himself, was offered the job, but refused for the reason that an organ in chamber tone would be too costly for the poor suburban community of Dresden-Friedrichstadt. Then the council sent him Gräbner's estimate, which Silberman declared to be adequate. In spite of Gräbner's recommendation through Silbermann, Hähnel finally was offered the contract. When Silbermann inspected the half-finished organ at the Altenburg Castle in July, 1737, with the teacher J. Kalb of Ponitz, and in the presence of Trost, he declared that the or-

gan would, thanks to efforts of Herr Trost, be very good, but that Trost would "probably have little profit from it." From the story of the Zittau organ we learn that, on the other hand, the organ builders would also take Silbermann's side in a controversy. J. D. Tamitius put in a good word for Silbermann at the city council even though he looked upon him as an annoying competitor. Even Albertus Prockhardt, who around 1725 had suffered great loss through Silbermann, stood in the Hähnel case on Silbermann's side, along with J. Heinrich Gräbner and J. Christian Heidenreich, both of whom were organ builders.

Unfortunately, there is no authentic picture of Gottfried Silbermann, which, in Goethe's words, would be "the best text to many or few notes" about him. To be sure, the Dresden archivist Theodor Distel tried to prove that a silhouette found in a Dresden antique shop was a genuine picture of Silbermann, but he used only external characteristics as evidence and was thus not very convincing in his argument.

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CECIL CLUTTON

THE PRESENT STATE OF ORGAN BUILDING IN ENGLAND

ACCOMPANIMENTAL considerations have long been the dominant factor in the tonal design of English organs. The great majority of English organists are accompanists first and last. In the course of more than a century they have built up a remarkable aesthetic around the Church of England liturgy and so profoundly has this pervaded their technique that even when they give a recital, they play exactly as though they were accompanying the psalms — that is, with a commendably high level of accuracy, an almost complete lack of rhythm, no variety of touch and incessant changes of registration. This is as true of most cathedrals as of any parish church.

For this style of playing the English Church organ, which reached its apotheosis in the work of Arthur Harrison, is not only well, but perfectly adapted. Harrison perfected his technique at Ely Cathedral in 1908 and he made practically no advance in the twenty-eight years of very active life that remained to him. This was not primarily due to any sense of self-satisfaction on his part; for no one wanted anything better or different. The majority still don't want anything better, but since the war there has been a growing dissatisfaction among a rapidly increasing minority.

Before considering the effect of this new trend, it is worth seeing how the English organ has reached its present position.

In the sixteenth century the English keyboard school of composition was second to none, but our keyboard instruments seem to have come from Italy almost exclusively. Italian organs had only the most rudimentary pedals or none at all and indeed, pedals in the sixteenth century were a rarity in any country outside of Germany.

From Redford in the 1540's to Bull and Gibbons in the early 1600's there developed a remarkably pure yet inventive native organ style which sounds to the best advantage on a small, single manual chorus, without pedals.

This remarkable school had petered out by about 1630, and the Commonwealth put a complete stop to church music. With the restoration of the monarchy in 1660, English organ building had its great chance to fall into line with the continental school — and failed to take it. The reason, however, was a perfectly sound one; English and continental Protestants had moved along entirely different lines. On the continent, the organ was essentially a solo instrument. From its west end eminence it might interject solos during the service, but in the service itself it took no part, except to thunder out the chorales which were bellowed fortissimo by the congregation.

The choral music of the Church of England was more flexible, and it was an essential part of the liturgy. Trained choirs sang the anthems and psalms with a discreet organ accompaniment. In cathedrals, the professional choir sat in the chancel with the clergy, and the organ was either at one side of the chancel or on a screen, so as to be near to the singers; its primary purpose was accompanimental.

Although English organ building immediately after 1660 was completely dominated by two foreign organ builders — Bernhardt Schmidt, the German, and René Harris, the French-trained son of English parents, neither of them succeeded in selling the idea of pedals to the English. Perhaps they did not try, although Harris did propose a west end organ with six manuals and pedals for the new St. Paul's Cathedral. In the event,

Schmidt built a conventional instrument on the chancel screen.

Being thus cut off from the possibility of playing Buxtehude and Bach, when they came on the scene, or even the less exacting Daquin, and the Couperins, English players were thrown back, for solo music, upon native talent which, on the whole, was pretty mediocre, and became increasingly so as the eighteenth century progressed.

Throughout this century, an organ with three manuals and twenty speaking stops was quite a large one. The Great organ was generally well developed, but there was no secondary ensemble. The Choir went up to a single 2′ without mixtures or mutations, and while the Swell (introduced by Jordan in 1712) might have a Cornet, its potential uses were stultified by its being of short compass. There were, of course, no pedals, but for accompanimental purposes, the lack of them was partly met by carrying the Great and Choir manuals down to F or G in the 16′ octave.

After 1800, pedals became increasingly common, but still their fuction was accompanimental; the idea of an obligato pedal had yet to be born of Mendlessohn's visits to England in 1844. As late as 1851 Sir George Smart, who had played at the coronations of William IV and Queen Victoria, when asked to play with pedals, replied with affronted dignity "My dear Sir, I never in my life played on a gridiron"; but the more adventurous spirits, peering anxiously at their feet, picked out a booming bass to the hymns on their new "pedal pipes." Nearly everyone was delighted at the novelty, although the die-hards voiced their inevitable disapprobation. Sir John Sutton was a great admirer of Schmidt (he had still not become "Father Smith" as we know him) and in 1847 published (anonymously) a splendid little book called *A Short Account of Organs Built in England from the Reign of King Charles the Second to the Present Time.*

His views about the increasing size of organs were unequivocal:

"The reason why these beautiful (old) instruments are so often destroyed is that the clergy and those in authority are persuaded by their organists that the instruments in question are not fit to play upon; by which they mean that it is impossible to show off upon them in the most approved fashion, for they have neither pedals, swell, or any of those complicated contrivances with which the modern *Music Mills* are crowded. Every lover of true Cathedral Music must have experienced how much these modern alterations and additions to the organ mar the effect of that most devotional manner of performing the church service. In the chanting of the psalms, the attention is continually drawn from the voices by the perpetual changing of stops and clattering of composition pedals, for the modern cathedral organist scarcely ever accompanies six verses on the same stops, or even on the same row of keys, and keeps up a perpetual thundering with the pedals throughout the psalms, when perhaps the choir he is accompanying, consists of ten little boys, and six or at the most eight men, three or four of whom are either disabled by old age, or a long continued habit of drunkenness."

Probably he was exaggerating, although it is still possible to visit cathedrals where most of his strictures still apply. I recently attended a service in Truro Cathedral where is one of the finest old Willis organs, no longer mechanically silent after sixty-five years of use. The singing of the understandably discouraged choir was drowned alternately by the incessant clatter of changing stops and such a roaring and thundering that only by watching the mouths of the small choir was it possible to deduce whether they were singing.

But apart from lampooning such performances, Sutton's commentary is particularly valuable in showing that the English tradition of accompanimental playing was already

flourishing by 1850. At its best, it consists of a properly restrained background to the singing, and its subtly kaleidoscopic color-changes provide as artistic an embellishment to the service as do the deep, flashing colors of the mediaeval stained glass.

Stop-changing was facilitated by the introductioin of thumb-pistons by Willis, in 1850, and anyone who accompanied "six verses on the same stops or the same row of keys" — would nowadays be thought a very dull dog. In short, despite its all-too-easy opportunities for abuse, the English tradition of service accompaniment is a real and legitimate art-form in its own right. The trouble is, it has become such a habit that its best exponents usually make the worst solo players, because they simply cannot bring themselves to leave the stops alone for an instant, in or out of season.

In this age of artistic enlightenment one would think it unnecessary to point out that each section of a Bach fugue has to be played on an unvaried set of stops so as to allow the thematic development to unfold itself without interruption. The sharp contrast of changing to another manual chorus for the episodal sections is also lost if the stops are changed at other times.

The "accompanists" claim, however, that Bach only played that way because he had no opportunity of doing otherwise; they add, as though it were an incontrovertable fact, that "he would have revelled in the modern organ." The fact is that they have never succeeded in looking at Bach except through the medium of romantic-tinted spectacles, and as a result (although they will never admit it), they find him so dull that they seek to mitigate the boredom by constantly changing the stops and flapping the swell shutters to and fro. The arch-priest of the "romantic" school of Bach-players is the venerable Dr. Harold Darke, organist of a famous London church, who still enjoys a big following among the older generation. In listening to his performances of Bach it is difficult to discover any ruling principle except that if a toe or a thumb is momentarily disengaged, it must press a piston or a swell pedal, regardless of the context. It is, however, significant that when a radio discussion was recently staged on the merits of "baroque" (horrid word!) and "romantic" registration for Bach, it was only with the utmost difficulty that anyone could be found to partner Dr. Darke and even when one was pressed into service, he caused considerable confusion by turning out to be extremely half-hearted in his "romanticism."

In the meantime, the playing of an increasing number of younger players, approximating more or less closely to an historically accurate rendering of seventeenth- and eighteenth-century music, is already retrieving the organ from the musical disrepute in which it has so long been held by the general musical public.

The problem therefore is, how to adapt the English church organ to the requirements of the new generation of artistic solo players, without prejudicing its suitability for accompanimental use in the English tradition.

With Mendlessohn's visits to this country, organ-building made enormous strides, until, as early as 1844 we find the following remarkably complete specification for a new organ at the Shire Hall Worcester, by the local firm of Nicholson.

Great

16′ Great Diapason	5 1/3′ Quint	2′ Fifteenth
8′ Open Diapason	4 Octave	1 3/5′ Tierce
8′ Open Diapason	4′ Gemshorn	V Mixture
8′ Gamba	4′ Wald Flute	8′ Posaune
8′ Bourdon	2 2/3′ Twelfth	4′ Clarion

Swell

16′ Great Diapason
8′ Open Diapason
8′ Gamba
8′ Stopped Diapason
8′ Keraulaphon
4′ Octave
4′ Gambette
4′ Wald Flute
2′ Superoctave
V Mixture
16′ Trombone
8′ Cornopean
8′ Hautboy
8′ Clarionette
4′ Clarion
Tremulant
Octave Coupler

Choir

8′ Open Diapason
8′ Viol di Gamba
8′ Dulciana
8′ Clarabella
8′ Stopped Diapason
4′ Harmonic Flute
4′ Dulcet
4′ Suabe Flute
2′ Octave Flute
V Echo Cornet
8′ Trumpet

Pedal

32′ Great Diapason (wood)
16′ Open Diapason (metal)
16′ Open Diapason (wood)
16′ Dulciana
16′ Violon
16′ Bourdon
10 2/3′ Stopped Quint
8′ Principal
8′ Bass Flute
4′ Fifteenth
III Mixture
16′ Posaune
Octave Coupler

This organ (which no longer exists) was all voiced on light pressures (probably 3″), on chorus lines, free from unison predominence. Organs continued to be made on similarly classical lines right up to the end of the century, the last grand example being the Hill organ at Sydney Town Hall (Australia) in 1897. But in the mean time, disrupting forces had been at work. The first was the development of heavy pressure reed-voicing by Henry and George Willis, from 1851 onwards; the second was the development of the powerful diapason by Edmund Schulze; the third was the development of modern string tone by Mitchell and Thynne. Here were the essential ingredients of the fully developed "romantic" organ, for although the Worcester instrument was made at the height of the romantic movement, it was completely classical in conception, its swell box being the only concession to romanticism.

It was certainly unusual in possessing a fairly well developed Choir organ, but other organs which did not, nevertheless had a secondary manual ensemble which was capable of standing up to the Great in the capacity of a Positive. As soon as the English Swell achieved the dignity of full compass it rapidly developed into what was, in fact, an enclosed Oberwerk with a slight reed predominence to counteract its enclosure. Despite the fact that Willis is rightly credited with the perfection of the "English full Swell" it is almost certain that he always saw the Swell in this light. Certainly, his Swell was reed-dominated, but so, equally, was his Great.

As long as this state of affairs persisted, the English organ remained an eminently suitable medium for accompanimental and solo playing, and this is fully born out by the regrettably few surviving examples of this style of organ building.

Schulze and Willis could see no merit in each other's work, but others were not slow to realize the possibilities of combining them. They envisaged a powerful Schulze diapason chorus on the Great, pitted against a Willis heavy-pressure reed chorus in the Swell, and as soon as this was achieved, the classical conception of Great and Positive disappeared and it became impossible to play early music in any way which made musical sense. The modern Swell might have a complete flue chorus, but the dominating reed chorus owed nothing to it, and the Swell flue chorus rapidly shrank to a mere pretty

echo. The first time Schulze-type diapasons and Willis-type reeds were incorporated in one organ was in 1885 when Michael and Thynne made the very remarkable multum-in-parvo organ now in the superb Norman Abbey Church at Tewkesbury. To these choruses were added their own pioneer modern string tone. The specification was as follows; it was the first, fully developed, "modern" English organ.

Great
16′ Violone
8′ Open Diapason I
8′ Open Diapason II
8′ Claribel
4′ Octave
4′ Flûte Octaviante
II Rauschquint 12, 15
IV Great Mixture 19, 22, 26, 29
16′ Trombone
8′ Trumpet

Swell
8′ Open Diapason
8′ Flauto Traverso
8′ Viole de Gambe
8′ Voix Céleste
4′ Geigen
III Mixture 15, 19, 22
16′ Contra Posaune
8′ Horn
8′ Oboe
Octave Coupler

Choir (unenclosed)
8′ Spitzflöte
8′ Gedeckt
8′ Viole Sourdine
4′ Gemshorn
4′ Zauberflöte
2′ Flautina
8′ Clarinet
Octave Coupler

Pedal
32′ Harmonic Bass
16′ Great Bass (wood)
16′ Dolce (open)
8′ Great Flute (open)
16′ Bombarde

Solo
8′ Harmonic Flute
8′ Violoncello
8′ Voix Humaine
8′ Tuba
Octave Coupler

Wind Pressures:
3 1/2″ Fluework
6″ Chorus reeds
10″ Tuba & Bombarde

On paper this looks innocent enough and it is, indeed, one of the most thrilling organs, in the purely sensuous way, immaginable. But it was the beginnings of a slippery slope which, after only a decade, ended in Hope-Jones. Fortunately, he proved a bit too much even for the depraved taste of the fin-de-siècle, and we quickly exported him to America! The coast was then clear for the youthful Arthur Harrison, whose artistic attainments cannot be praised highly enough, when judged against the background of Hope-Jones, from which he started. He found an ardent and powerful champion in Lt. Col. George Dixon, whose writings show what a remarkable grasp he had on the aesthetics of organ building and when he died, at age 80, in 1950, he was still ahead of the average current opinion. Harrison made his first important organ in 1904, and in 1908 he completed the very remarkable organ at Ely Cathedral, which has this specification:

Great
32′ Sub Bordun
16′ Contra Clarabella
16′ Gross Geigen
8′ Open Diapason I
8′ Open Diapason II
8′ Open Diapason III
8′ Geigen
8′ Hohlflöte
5 1/3′ Quint
4′ Octave
4′ Geigen Principal
4′ Waldflöte
2 2/3′ Octave Quint
2′ Superoctave
V Harmonica 10, 17, 19, 21, 22
V Mixture 15, 19, 22, 26, 29
16′ Trombone
8′ Tromba
4′ Octave Tromba
Reeds on Solo

Choir (unenclosed)
16′ Double Salicional
8′ Open Diapason
8′ Gedeckt
8′ Salicional
8′ Dulciana
4′ Flauto Traverso
4′ Salicet
2′ Dulcet
III Dulciana Mixture 12, 19, 22

Swell

16′ Lieblich Bordun
8′ Lieblich Gedeckt
8′ Open Diapason
8′ Echo Gamba
8′ Voix Céleste
4′ Principal
4′ Lieblichflöte
2′ Fifteenth
VI Sesquialtera 12, 17, 19, 22, 26, 29
8′ Oboe
8′ Vox Humana
16′ Double Trumpet
8′ Trumpet
8′ Horn
5 1/3′ Horn Quint
4′ Clarion
Octave Coupler
Tremulant

Solo (enclosed)

16′ Contra Viola
8′ Viole d'orchestre
8′ Viole Céleste
4′ Viole Octaviante
III Cornet de Violes 10, 12, 15
8′ Harmonic Flute
4′ Concert Flute
16′ Cor Anglais
8′ Clarinet
8′ Orchestral Oboe
8′ Tuba (unenclosed)
Octave
Suboctave
Unison off
Tremulant

Pedal (with octave extension)

32′ Double Open (wood)
32′ Double Stopped Diapason (Great)
16′ Open (wood)
16′ Open Diapason (part Great)
16′ Stopped Diapason (Great)
16′ Subbass (part Great)
16′ Violone (Solo)
16′ Salicional (Choir)
8′ Octave (wood)
8′ Violoncello (Solo)
8′ Flute
32′ Bombardon
16′ Ophicleide
8′ Posaune

The true magnitude of this achievement can only be appreciated when compared with what others were doing at the same time. The Great chorus is remarkably complete by any standards, even if its constitution may be criticized in detail. Harrison built up a more or less "straight-line" chorus from his Second Open up to the Quint Mixture. The large diapason is a fearful leathered affair which supplies the "flood of unison tone" beloved of the older generation and once considered indispensable for congregational accompaniment. It has no relationship at all to the chorus proper. The smooth-toned trombas are another unfortunate Hope-Jones legacy. The unenclosed Choir on 2 1/2" wind pays lip-service to the idea of the chorus Positive. It probably represents the influence of Col. Dixon, who was ardent in specifying such departments, but always missed the point, up to the end of his life. He thought of them as a "miniature Greats," which is about the last thing they should be!

In the Solo, Harrison created something quite new. From being a fortuitous concourse of solo voices he turned the Solo into a coherent department, with its contrasted families of strings, flutes and solo reeds. It was, of course, an entirely orchestral concept and one now sees how a coherent Solo department can be built up which is not merely imitative.

The Pedal department testifies only too clearly of its English Victorian parentage. Its heavy, rumbling, woofling tones are devoid of definition or clarity, for which it is entirely dependent on manual coupling. Harrison latterly made some pedal mixtures, but his Pedal organs remained essentially the same as Ely; they are the worst feature of his organs.

Solo mutations are, of course, absent. Their reintroduction had to wait another

fifteen years for the crusading work of Mr. Henry Willis III, who has also struggled hard in the cause of well-defined, independent Pedal organs.

Such then was the state of the English organ in 1939. The Harrison organ was pretty well supreme. Within a year of his death Arthur Harrison stated unequivocally to me that he regarded the organ as an entirely "romantic" instrument.

But for several years before the war the playing of a handful of people such as Lady Jeans, Mr. C. H. Trevor, and Mr. Ralph Downes, had been making people think. They performed Bach and his predecessors in an historically accurate style, as far as this was possible on English organs. Since the war, they have been joined by others, among whom Mr. Geraint Jones is eminent. The latest convert to more or less this style of playing has aroused great interest, since it is none other than Dr. Dykes Bower, the very famous organist of St. Paul's Cathedral. He chose to declare himself in a recital on the much-discussed new London Festival Hall organ, in a Bach recital of immense purity of registration and breathtaking technical perfection. And behind these leading figures are innumerable young players, many still students, who will in due course occupy the seats of the mighty and completely change the character of English solo organ-playing, although not, one hopes, our traditional style of accompanying.

How is the organ building industry preparing itself for this inevitable change?

As yet, this question is difficult to answer. The main influence has come from Mr. Ralph Downes, the organist of the Roman Catholic Brompton Oratory, London, who has made an intensive study of the seventeenth- and eighteenth-century schools of France, Holland and North Germany. He has so far designed two Roman Catholic Church organs and the Festival Hall instrument, and the latter has, of course, attracted the utmost interest. Unison predominence, heavy pressure reeds and orchestral imitations are completely banished. The Great, Positive and Pedal each have complete and balanced choruses. Unfortunately, two things have militated against the success of the organ. One is the exceptionally dry acoutics of the hall and the other is Mr. Downes' insistence that nearly all the reeds should be specified and voiced by the French firm of Rochesson. French reeds are not at all suited to the acoustical conditions and, anyway, we can make excellent light-pressure reeds in England. The use of these tearing French reeds has made enemies of many people who might otherwise have been friendly disposed to the organ. Discreetly used, it has shown itself to be highly successful, but in uncautious hands it can be absolutely unbearable. However, six Bach recitals have been played to packed houses, which means an average audience of 3000 people. It reflects the utmost credit on Mr. Downes and Messrs. Harrison and Harrison, and on the whole, the organ must be accounted a genuine success.

It was built by Harrison and Harrison, now led by Mr. Cuthbert Harrison, nephew of the late Arthur Harrison, but it is not yet clear how far he is converted by what he has done under the architectship of Mr. Downes. The English are never addicted to violent change, and although Mr. Downes' work is of the utmost influence and importance, I am inclined to think he attempted too much. The change will, in general, be effected more gradually, and it will probably not be so drastic. Among all the builders, I see the most solid progress in the work of the ancient firm of Hill, Norman and Beard, and this the more so since their progress is not the result of outside influence or pressure, but stems from the artistic outlook of their young managing director, Mr. Herbert Norman.

His outlook, for a fairly complete three manual organ, may be briefly summarized:

Great Organ. The flue chorus is independent of reeds although these are not necessarily excluded. Tierce ranks are excluded from the chorus mixtures. The tierce is usually on a separate draw. Mr. Norman is not averse to more than one unison diapason, but even if there are three, they are all of roughly equal power so that the upperwork may be carried by any one of them. This makes for great flexibility, while not precluding a massed unison effect for such as want it. For the double, a Quintadena is generally preferred. Reeds may be present but the chorus is independent of them.

Swell Organ. This traditional English department remains unchanged, but there is a tendency to use as light a wind pressure for the reeds as is compatible with obtaining the necessary effect.

Choir Organ and Positive. An enclosed Choir, with mild string tone, and solo flute mutations, is preferred, and also an unenclosed Positive in a prominent position, generally on 2 1/2″ pressure, with un-nicked pipework. No example has yet emerged which can really stand up to the clear-sounding Great in the manner of the great continental organs, but one will undoubtedly come before long. A solo reed of semi-tuba character may also appear on this manual.

Pedal Organ. No really independent department has yet emerged, and upperwork, though present, is still scanty. Rumbling reeds are, however, excluded, and the reeds are generally limited in power to what can be used with Great to mixtures.

At any rate two of the younger firms are working on somewhat similar lines.

Such an organ, when slightly more developed, will be able to answer all classical, romantic and accompanimental requirements, while yet retaining an English character. This is the direction in which we are moving with ever-growing impetus.

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No doubt Gottfried Silbermann would have made good use of this pipe metal, had it been available to him. Arthur Stopes, of Phildelphia, shown playing the organ which he built himself, seems to have combined several hobbies.

(Continued from Page 3)

of our immediate predecessors, or to the local established traditions in our town, state, or country, without making any effort to understand and appraise the different ideas and practices of others elsewhere. The Organ Institute, both in its *Quarterly* and in its Summer Sessions, will attempt to disseminate knowledge of the most important trends of thought in the entire world of organ culture.

ACCORDING TO MR. FROST "PLAYING THE phonograph" is no longer as easy as it once was. He should know, as he is an engineer well versed in electronics as well as a most accomplished and perceptive musician; a former pupil of Carl Weinrich, several times a student at the Organ Institute, and organist of a large church in Pittsfield, Massachusetts.

MR. KERR, AT HOMEYER'S, HAS BEEN showing a book called *The Organ, Its Evolution, Principles of Construction and Use,* by William Leslie Sumner (Macdonald). The author is the same W. L. Sumner of Nottingham University, who described the *Organ Institute Quarterly* as "The finest periodical devoted to the organ in any language." From one who made that astute observation we naturally expected profound wisdom. We were not disappointed. The book contains much that is historical and much that is technical; there is enough material for two separate books in one volume. It is both interesting and accurate, within the limits of our knowledge, and unlike other compendiums on the subject, the author's own judgment and opinions here appear to be based upon a broad perspective, unrestricted by preoccupation with advocacy of any narrow phase. This book, together with *The Organ, Its Tonal Structure and Registration,* by Cecil Clutton and George Dixon (Grenville), are important additions to any library, either public or private.

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